

Permanent grassland definitions in the EU

EURAF Policy Briefing #29 (v1 - 31.12.23). Manuel Bertomeu (UEX), Gerry Lawson (EURAF)¹ DOI 10.5281/zenodo.10449117



EURAF is an NGO, based in Montpellier and Brussels (Transparency Register ID of [913270437706-82](https://ec.europa.eu/transparency/regexp1/index.html)). It aims “to promote 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.

Definitions cannot, by their very nature, be either “true” or “false”, only more useful or less so. For this reason, it makes relatively little sense to argue over them. Peter L. Berger. The Sacred Canopy: Elements of a Sociological Theory of Religion

This Briefing focuses on the flexibility allowed to Member States to define permanent grassland to “include other species such as trees and/or shrubs which produce animal feed”. This option has not been selected by 15 administrations (AT, BE-F, CZ, DK, EE, HU, HR, LT, LU, LV, MT, NL, PL, SK, SI). Six administrations include the tree/shrub definition but on only part of their territories (BE-W, DE, FR, IT, PT, SE). Three administrations (BG, FI, RO) implement the definition over all their territory, but only if herbaceous vegetation “remains predominant”. Three administrations (EL, ES, IE) implement the tree/shrub option over their entire territory even if herbaceous vegetation is not predominant, and a final administration (CY) remains uncertain. Use of this flexibility by Member States is very important to farmers, since it determines their eligibility for CAP-Pillar-1 Basic Income Support for Sustainability (BISS). Eurostat gives a land-cover (Corine/LUCAS) estimate of the area of PG in EU-27 of 54 Mha and land-use (FSS) of 48 Mha. High-resolution land-use information will become increasingly important as payments for environmental services, carbon farming and emission trading become an established part of farm incomes.

Areas and Definitions

“Permanent grassland”, is uncultivated agricultural land with herbaceous and woody vegetation that is grazed and/or cut for fodder. Eurostat provides two estimates of its area, based on either:

- the combination of **land-cover** evaluation from of satellite images (Corine) and field sampling on a 2x2km grid (LUCAS) - giving an “probable” estimate in 2018 of 54.051 million ha in the EU-27 ([Eurostat](https://ec.europa.eu/eurostat)); or
- returns from European farmers in the “Farm Structure Survey” of areas which they themselves classify as permanent grassland, using definitions given to them by individual Member States (qv) - where a total of 47.964 million ha was recorded in the 100% survey carried out in 2020. (Table 1)

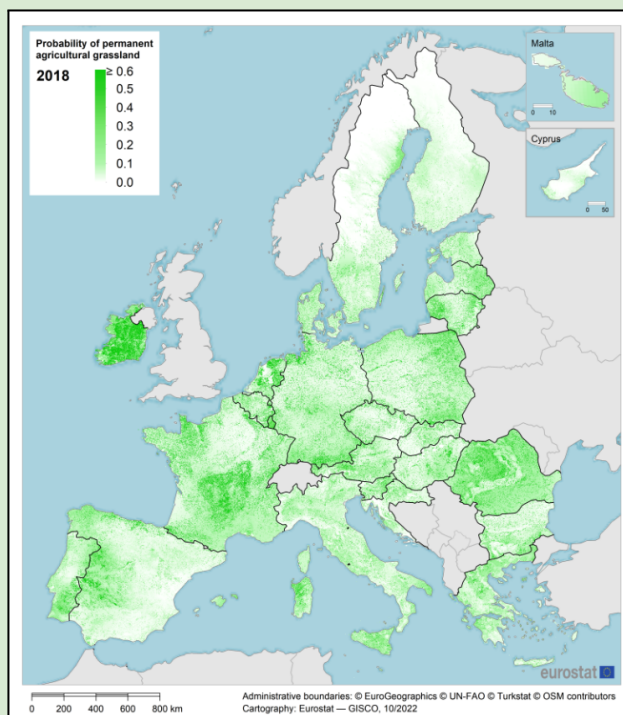


Figure 1. Probability of permanent “agricultural” grassland in 2018. Estimated by EUROSTAT [1] based on the LUCAS 2018 sample and Copernicus Land Cover (HRL 2018 “Grassland”)

There is therefore a difference of around 6 million hectares between estimated permanent-grassland **land-cover** from Corine and LUCAS, and data on permanent-grassland **land-use** provided by farmers themselves. The latter is smaller because it excludes grassland which is outside officially recognised agricultural holdings. The term used by

Eurostat for the “cover of permanent agricultural grassland” may therefore be incorrect.

¹ University of Extremadura (mbergar@unex.es), European Agroforestry Federation (policy@euraf.net)

According to the 2020 Farm Structure Survey (i.e “land-use), grasslands cover 30.5% of Utilised Agricultural Area (UAA) in the EU-27 compared to 62.3% for arable land, 7.1% for permanent crops and 0.1% for kitchen gardens (Table 1).

Table 1: Areas of farmland (ha) including arable land, permanent grassland and permanent crops in the EU-27 Farm Structure Survey (FSS). Showing % “change” between 2005 and 2020 - full data by country [here](#).

	Farm area	UAA	Arable land	Perm grassland	Perm crops	Kitchen gardens	Unutilised agric	Wooded areas	Other areas on
2005	198,906,760	156,039,240	98,602,690	46,174,950	10,835,810	425,810	3,332,490	30,712,890	8,821,230
2007	199,537,110	157,333,230	99,068,370	46,889,610	10,982,370	392,890	2,994,680	30,460,600	8,747,700
2010	199,225,780	158,963,800	97,977,120	49,940,310	10,666,430	349,580	3,543,960	29,498,350	7,218,120
2013	195,045,590	157,254,840	97,933,440	48,769,070	10,266,850	285,770	2,533,580	28,358,480	6,897,400
2016	191,888,000	156,658,530	97,078,750	48,865,000	10,467,560	247,160	1,707,740	26,931,300	6,589,360
2020	190,382,400	157,415,700	98,094,800	47,963,700	11,138,530	205,020	2,040,320	24,092,370	6,832,800
Change%	-4.29%	0.88%	-0.52%	3.87%	2.79%	-51.85%	-38.77%	-21.56%	-22.54%

While Table 1 shows no evidence of a decline in the area of permanent grassland since 2020, there is clear evidence of a decline in numbers of livestock, averaged across Europe. Numbers of cattle, pigs and goats in the EU-27 have declined by approaching 10% since 2020, while sheep numbers have declined by almost 20% (Figure 2). These decreases continued in 2021 and 2022, particularly for pigs ([ref](#)). However, there are big differences between countries. Cattle numbers, for example, have declined dramatically over the 20 years in some countries, (RO -34%, BE -22%, DE -22%, DK -21%) but increased in others (PT+21%, EL+11%, ES+8%) (links below Fig 2).

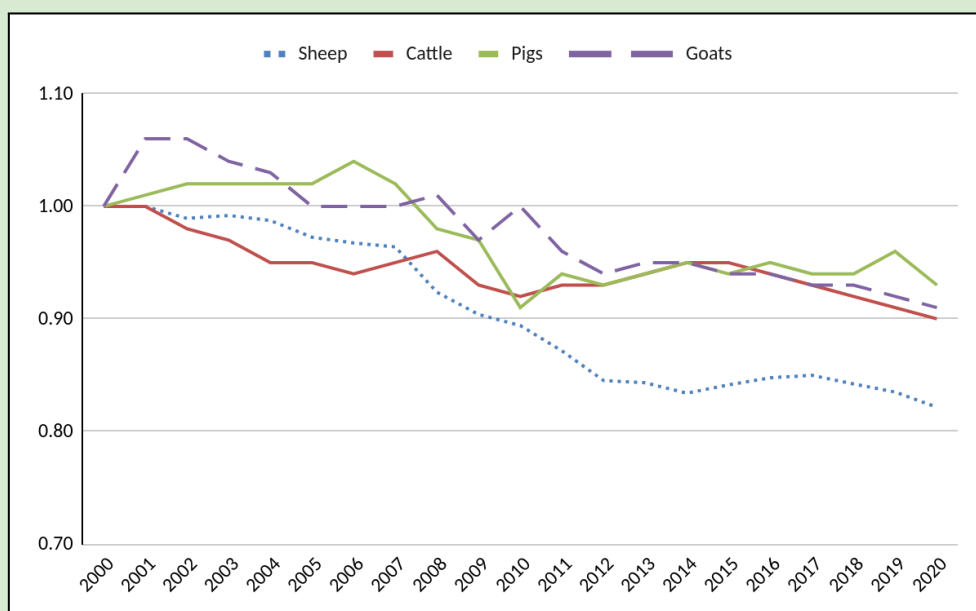


Figure 2; Decline in livestock numbers in the EU between 2000 and 2020, with 2010 as 1 (when there were 152.5 million [pigs](#), 83.8 million [cattle](#), 74.8 million [sheep](#) and 13.2 million [goats](#) (Eurostat 2023).

Eurostat statistics do not indicate what proportion of the feed provided to these livestock comes directly from the grazing of permanent pasture, and the extent to which reduction in animal numbers represents extensive or intensive grazing systems. Yet many studies do show that the **density of animals** in extensive grazing systems has been declining [2,3], and this often has negative effects on the biodiversity of these areas [4–6].

The official definition of "permanent pasture" in the EU **2013 Rural Development Regulation** ([Regulation 1307/2013](#)) was:

"land used to grow grasses or other herbaceous forage naturally (self-seeded) or through cultivation (sown) and that has not been included in the crop rotation of the holding for five years or more; it may include other species such as shrubs and/or trees which can be grazed provided that the grasses and other herbaceous forage remain predominant as well as, where Member States so decide, land which can be

grazed and which forms part of established local practices where grasses and other herbaceous forage are traditionally not predominant in grazing areas .

The **2017 Omnibus Regulation (2017/2393)** allowed Member States more flexibility in the definition of “permanent grassland and permanent pasture” (together referred to as “permanent grassland”), meaning:

*"land used to grow grasses or other herbaceous forage naturally (self-seeded) or through cultivation (sown) and that has not been included in the crop rotation of the holding for five years or more, as well as, **where Member States so decide**, that has not been ploughed up for five years or more; it may include other species such as shrubs and/or trees which can be grazed and, where **Member States so decide**, other species such as shrubs and/or trees which produce animal feed, provided that the grasses and other herbaceous forage remain predominant. **Member States may also decide** to consider as permanent grassland: (i) land which can be grazed and which forms part of established local practices where grasses and other herbaceous forage are traditionally not predominant in grazing areas; and/or (ii) land which can be grazed where grasses and other herbaceous forage are not predominant or are absent in grazing*

The **CAP Strategic Plan Regulation (2021/2015)** retained the flexibility for Member States introduced in the Omnibus Regulation, but clarified that this can apply to trees/shrubs which are cut to produce animal feed - and not just trees which can be grazed. Member States are still required to maintain the ratio of land under permanent pasture to the total agricultural area - with a 5% margin of flexibility (GAEC 1), and to avoid the conversion or ploughing of permanent grassland designated as environmentally-sensitive in Natura 2000 sites (GAEC 9). Member States must clarify in their Strategic Plans the following decisions in relation to the "permanent grassland" classification:

- use of the "ploughing" criterion²
- use of the tilling criterion
- use of the reseeding with different types of grasses criterion
- use of other species such as trees and/or shrubs which produce animal feed, provided that grasses and other herbaceous forage **remain predominant**.
- use of other species, such as shrubs and/or trees, which could be grazed and/or which produce animal feed, where grasses and other herbaceous forage are traditionally **not predominant or are absent** in grazing areas.

Our analysis of the results (Table 2) indicates that:

- from 28 administrations, there are 9 countries (DK; EE; LT; LU; LV; MT; NL; PL; SL) and 1 region (BE-F) which do not incorporate any of the flexibility criteria in their definitions;
- only 4 countries (CZ, EL, ES, FR) include the criteria of both ploughing and tilling in their definition of PG and another 4 MS (DE, HU, IT, SK) mention ploughing but not tilling;
- reseeding with different types of grasses has been included in the definition by 5 countries (AT, DE, ES, FR, HR)
- there are 15 administrations (AT, BE-F, CZ, DK, EE, HU, HR, LT, LU, LV, MT, NL, PL, SK, SI) which do not include trees and/or shrubs in their PG definitions under any circumstances:
- there are 3 administrations which include trees and/or shrubs in the definition, but only if herbaceous forage remains predominant (BG, FI, RO):
- there are 6 administrations (BE-W, DE, FR, IT, PT, SE) which allow trees and/or shrubs in their definitions even when herbs are not predominant but only in some regions or with traditional practices:
- there are 3 administrations (EL, ES, IE) which include trees and/or shrubs in their definitions for all parts of the country, even when herbs are not predominant:
- there is 1 administration (CY) which gave contradictory responses (see Table 2).

Allowing Member States this flexibility in their definitions comes with both advantages and disadvantages:

- Local definitions can enhance the relevance and effectiveness of policies, and encourage sustainable land management practices that align with regional needs and priorities. For example, inclusion of grazed

² **The Omnibus regulation said** "In order to accommodate the diversity of agricultural systems across the Union, it is appropriate to allow Member States to consider ploughing up, which is relevant for the agronomic and environmental aspects, as a criterion to be used for the classification of permanent grassland"

woodland and shrubs can lead to more effective wildfire control strategies and encourage collaboration between shepherds practising extensive grazing and local fire management agencies.

- However, national, regional and local inconsistencies in classifications can hinder the comparability of data, and complicate efforts to monitor and assess the health of grassland agroecosystems at the European level. Inconsistencies may create challenges in implementing common policies aimed at preserving biodiversity and mitigating climate change, as some regions might adopt less stringent criteria which may pose a threat to biodiversity, soil health, and the ecosystem services provided by permanent grasslands.

Environmental issues

Permanent pastures cover a great variety of climates, soils and land management practices: including pastures, or land on which livestock can be kept for feeding, improved pastures with a predominance of nitrophilous vegetation and leguminous grasses on soils with enhanced fertility due pastoral management, ley or sown meadows, steppe, alpine grasslands, long-term fallows, melliferous grasslands and different types of wood pastures, including open-forest pastures, mast pastures (i.e. pastures with oaks), shrub pasture and heathlands [7]. They play a pivotal role in Europe's food security, and economic, environmental, and social fabric [8]. They are a source of forage for around 196 million grazing animals, and are managed by about 3.6 million livestock-holders, i.e. about 33% of all European farmers [14(p9),10]. They also contribute to rural economies by supporting the livestock industry, providing employment, and maintaining the income of farmers, particularly in regions where other forms of agriculture are less viable. They provide a wide variety of ecosystem services, including biodiversity preservation, climate regulation, carbon sequestration, water purification, erosion and flood control, landscape and cultural value [2]. They have a crucial role in the transition towards a more sustainable European food system [11].

Despite their importance, agricultural grasslands are under threat from a variety of activities and socio-economic and environmental changes including intensification, abandonment, and conversion to other land use (e.g., afforestation) [12]. Intensification through cultivation and/or overgrazing results in the loss of plant biodiversity, pollinators and farmland birds, soil degradation and depletion of SOC, and a decline in the overall resilience of permanent grasslands. As woody vegetation encroaches, abandoned grasslands become more **susceptible to wildfires**, which emit important amounts of GHGs and can exacerbate the degradation of these once-thriving agroecosystems. The expansion of agricultural activities, afforestation, urbanisation and infrastructure development can lead to the conversion of permanent grasslands into arable land, forest land, residential areas, or industrial zones with the loss of their functions.

The long-term **permanence** of grasslands is crucial to preserve their multifunctionality. The lack of soil disturbance allows the development of diverse plant communities, creating optimal conditions for forage production and supporting the well-being of livestock. Moreover, maintaining the intricate network of roots intact, fosters water retention, enhances soil fertility, prevents erosion, sustains biodiversity, and contributes to carbon sequestration and climate change mitigation.

Conclusions

A balance is needed between the adaptation to local circumstances provided by flexible permanent-grassland definitions and the advantages of a standardised approach. Allowing Member States to implement their own definitions at national, regional and local levels provides opportunities to better meet the needs of specific landscapes and farming types, but loses clarity in international statistics and can cause confusion for farmers in understanding the conditions surrounding their eligibility for Basic Support (now called BISS - Basic Income Support for Sustainability). Open and transparent access to (non-personal) agricultural data on **Land Use** is increasingly needed through the Land Parcel Identification Systems of Member States (LPIS), for environmental evaluation [13] and potential payment by results. The LPIS cannot be replaced by the more broad-brush **Land Cover** approaches of Corine and LUCAS. High-resolution information on **Land Use**, for individual farms, will become increasingly important as payments for environmental services, carbon farming and emission trading become an established part of farm incomes.

References

1. Eurostat. Permanent agricultural grassland in Europe. In: Eurostat [Internet]. 2023 [cited 25 Dec 2023]. Available: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Permanent_agricultural_grassland_in_Europe
2. Schils RLM, Bufe C, Rhymer CM, Francksen RM, Klaus VH, Abdalla M, et al. Permanent grasslands in Europe: Land use change and

- intensification decrease their multifunctionality. *Agric Ecosyst Environ.* 2022;330: 107891.
3. Rubio Delgado J, Schnabel S, Burgess P, Burbi S. Reduced Grazing and Changes in the Area of Agroforestry in Europe. *Front Environ Sci Eng China.* 2023;11. doi:10.3389/fenvs.2023.1258697
 4. Bergmeier E, Petermann J, Schröder E. Geobotanical survey of wood-pasture habitats in Europe: diversity, threats and conservation. *Biodivers Conserv.* 2010;19: 2995–3014.
 5. Wolański P, Bobiec A, Ortyl B, Makuch-Pietras I, Czarnota P, Ziobro J, et al. The importance of livestock grazing at woodland-grassland interface in the conservation of rich oakwood plant communities in temperate Europe. *Biodivers Conserv.* 2021;30: 741–760.
 6. Gavrichkova O, Pretto G, Brugnoli E, Chiti T, Ivashchenko KV, Mattioni M, et al. Consequences of Grazing Cessation for Soil Environment and Vegetation in a Subalpine Grassland Ecosystem. *Plants.* 2022;11. doi:10.3390/plants11162121
 7. Peeters A, Beaufoy G, Canals RM, De Vlieghe A, Huyghe C, Isselstein J, et al. Grassland term definitions and classifications adapted to the diversity of European grassland-based systems. *Grassl Sci Eur.* 2014;19: 743–750.
 8. Velthof GL, J. P. Lesschen RLM, Schils A, Smit BS, Elbersen GW, Oenema HCAM. Grassland areas, production and use. Lot 2. Methodological studies in the field of Agro-Environmental Indicators. Wageningen University; 2014. Report No.: contract number 40701.2012.002- 2012.316. Available: https://ec.europa.eu/eurostat/documents/2393397/8259002/Grassland_2014_Final+report.pdf/58aca1dd-de6f-4880-a48e-1331cafae297
 9. Van Den Pol-Van Dasselaar A, Bastiaansen-Aantjes L, Bogue F, O'Donovan M, Huyghe C. Grassland use in Europe: A syllabus for young farmers. Quae; 2019.
 10. van den Pol A, de Vlieghe A, Hennessy D, Isselstein J, Peyraud JL. The future of grazing : Proceedings, Third Meeting of the EGF Working Group “Grazing.” Wageningen UR Livestock Research; 2015 p. -. Report No.: 906. Available: <https://library.wur.nl/WebQuery/wurpubs/reports/495171>
 11. Poux X, Aubert P-M. Putting permanent grassland at the heart of a European agroecological transition: Findings and questions arising from the “Ten Years for Agroecology” (TYFA) scenario. *Grass Forage Sci.* 2022;77: 257–269.
 12. EEB & Birdlife. Grasslands in the new CAP: bad news for biodiversity and climate. EEB and Birdlife International; 2022. Available: <https://eeb.org/wp-content/uploads/2022/06/Briefing-Grasslands-No-Branding-V3.pdf>
 13. Gobin B, Brodsky L, Tychon B, Andersen E, Campling P, Van Orshoven J. Protection and maintenance of permanent pastures. 12th MARS PAC annual conference, Geographical information in support of the common agricultural policy. JRC, Ispra, Italy; 2006. Available: <https://orbi.uliege.be/handle/2268/94120>

Table 2: Permanent Grassland definition choices made by Member States in their CAP Strategic Plans (2023-2027) (full date ([ref](#)))

Use of optional parts of Permanent Grassland Definition	AT	BE-F	BE-W	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	HR	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SK	SL
4.1.2.4.2 Decision to use 'ploughing' criterion in relation to permanent grassland classification	n	n	n	n	n	y	y	n	n	y	y	n	y	n	y	n	y	n	n	n	n	n	n	n	n	n	y	n
4.1.2.4.3 Decision to use 'tilling' criterion in relation to permanent grassland classification	n	n	n	n	n	y	n	n	n	y	y	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
4.1.2.4.4 Decision to use 'reseeding with different types of grasses' criterion in relation to permanent grassland classification and its description in case of affirmative reply	y	n	n	n	n	n	y	n	n	n	y	n	y	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n
4.1.2.4.5 Decision regarding the inclusion of other species such as trees and/or shrubs which produce animal feed, provided that grasses and other herbaceous forage remain predominant	n	n	n	y	n	n	y	n	n	y	y	y	y	n	n	n	y	n	n	n	n	n	n	y	y	n	n	n
4.1.2.4.6 Decision regarding the inclusion of other species, such as shrubs and/or trees, which could be grazed and/or which produce animal feed, where grasses and other herbaceous forage are traditionally not predominant or are absent in grazing areas	n	n	y	n	n	n	y	n	n	y	y	n	y	n	n	y	y	n	n	n	n	n	n	y	n	y	n	n
a) if affirmative is this applicable to all regions	n	n	n	n	n	n	n	n	n	y	y	n	n	n	n	y	n	n	n	n	n	n	n	n	n	n	n	n
b) if not all regions is it only applicable to "established local practices"	n	n	y	n	y	n	y	n	n	n	n	n	y	n	n	n	y	n	n	n	n	n	n	y	n	y	n	n
c) if not all regions is it applicable to areas other than "established local practices"	n	n	-	-	y	n	-	n	n	n	n	n	y	n	n	n	-	n	n	n	n	n	n	-	n	n	n	n



This Policy Briefing is an output from the [DigitAF Project](#) Grant agreement: 101059794. DigitAF is a consortium of 26 European and international partners committed to providing digital tools to boost Agroforestry in Europe to meet climate, biodiversity and sustainable farming goals. Views and opinions expressed are those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.

