



Analyzing GAEC requirements through the GAEC database

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Joint
Research
Centre

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Aim of the presentation

Using the information contained in the database, analyse requirements defined by MSs:

a focus on GAEC linked to EFA
characteristics of elements in GAEC

And also

Provide tipoffs with information coming from statistics and research

Presentation structure

- 1- Some figures on the GAEC database
- 2- Analysis of GAEC on LF, buffer strips and crop rotation (+ statistics)

GAEC database: some figures

Official GAEC notification tool since 2012

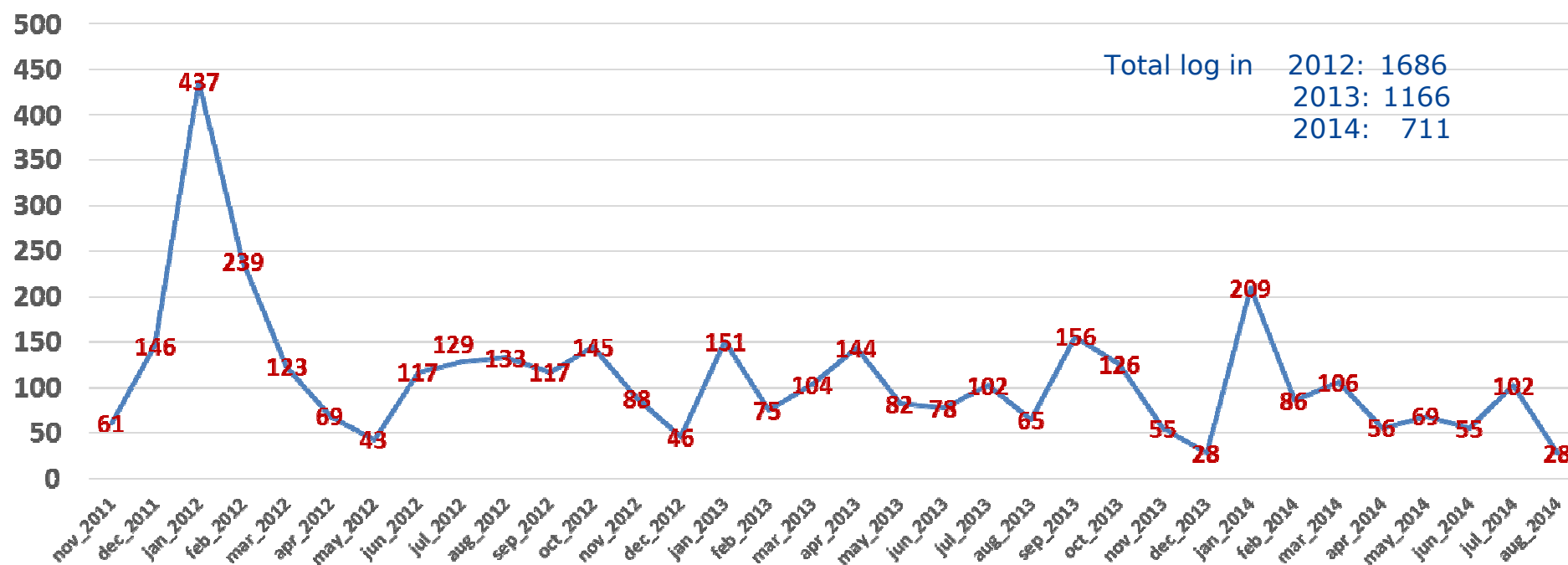
Users:

MS administration	216 (79 with writing access)
EU	34
others	26
TOTAL	276

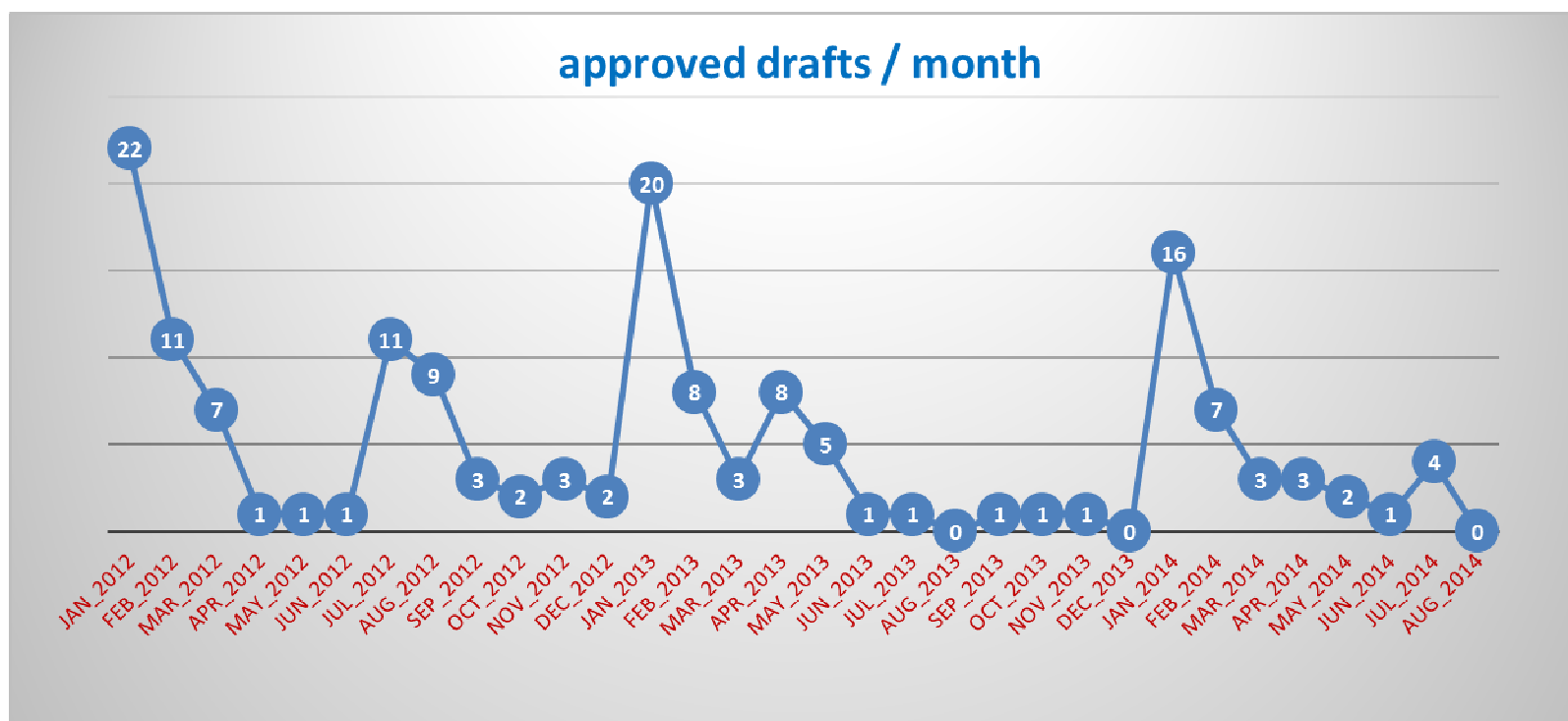


GAEC database: some figures

log in/ month



GAEC database: some figures



For notification 2015 the structure of the DB shall be adapted to the new GAEC framework

GAEC requirement definitions

Stability in the last years

Few changes 2012-2014

Minimum soil cover: one MS introduced soil cover on sloped land

Arable stubble management: burning stubble forbidden was introduced if not explicitly foreseen before

Protection of permanent pasture: period for mowing/grazing at least once/year, period for mowing/cutting/mulching according to altitude

Retention of landscape features: very few additions (e.g. ponds)

GAEC: Buffer strips

Buffer strips in EFA

Buffer strips in GAEC 1, SMR 1, SMR 10

Other buffer strips

Min. width: defined by MS (but at least 1m)
No agricultural production (MS may allow
grazing or cutting, but shall stay
distinguishable)

Analysis of current GAEC requirement

Type of water course

Buffer strips dimensions

Obligations on buffer strips

Notification not always contained
sufficient elements

e.g. "fertilisers shall be applied in accordance
with the National Nitrate Action Program"

GAEC: Buffer strips

Type of water course

1. generic definition (e.g. river, lake, well, any waterway)
2. criteria for definition based on:
 - dimensions (AT: water surface ≥ 1 ha, flowing water ≥ 5 m wide; PL different obligations if ditches $<$ or > 5 m wide and lakes $<$ or > 50 ha)
 - classification (BL-FL 1st, 2nd, 3rd category; FR: mapped on IGN map; LV: established by water management area classification)
 - catchment area (EE: different obligations if $<$ or > 10 km²)
 - territory slope (FI: 2%, GR: 8%, RO: 12%*, UK-NI: 10%)
 - territory risk of erosion (PT: IQFP: plot physiographic qualification index)

*slope= average slope of the physical block

GAEC: Buffer strips

Dimension of the buffer strip

5 m  10 m
more frequent width

but constraints differentiated according to dimensions!

Extreme values go from 1 m (EE, GR, RO) to 300 m (CY but around water sources)

some cases > 10m:

CY: 50m along rivers and lakes

PL: 20m around lakes > 50 ha and sea coast

PT: 15m along river and water bodies in areas at high erosion risk

UK-NI: 20m around lakes, 50m around springs

UK-SC: 50m around well and borehole

GAEC: Buffer strips

Obligations on the buffer strip

Ban of fertilisers, often with differences for mineral nitrogen fertiliser (smaller buffer) and organic (wider buffer)

e.g. LU: 3m (mineral), 10m (organic)

PL: 5m (mineral), 10m (organic)

UK-WA: 2m (mineral), 10m (organic)

FR: 5m (organic, mineral, plant protection products)

Few cases with explicit no cultivation requirement

DK: for natural water courses

GR: 1m buffer with no cultivation

GAEC: Retention of landscape features

Landscape features
in EFA

LF in GAEC 7, SMR 2, SMR 3

the following LF

Hedges and wooded strips (width $\leq 10\text{m}$)

Isolated trees (crown 4m)

Trees in line (crown 4m and spaces between crown $< 5\text{m}$)

Trees in group and field copses ($\leq 0,3\text{ ha}$)

Field margins (width $1\text{-}20\text{m}$)

Ponds ($\leq 0,1\text{ ha}$)

Ditches (width $\leq 6\text{m}$)

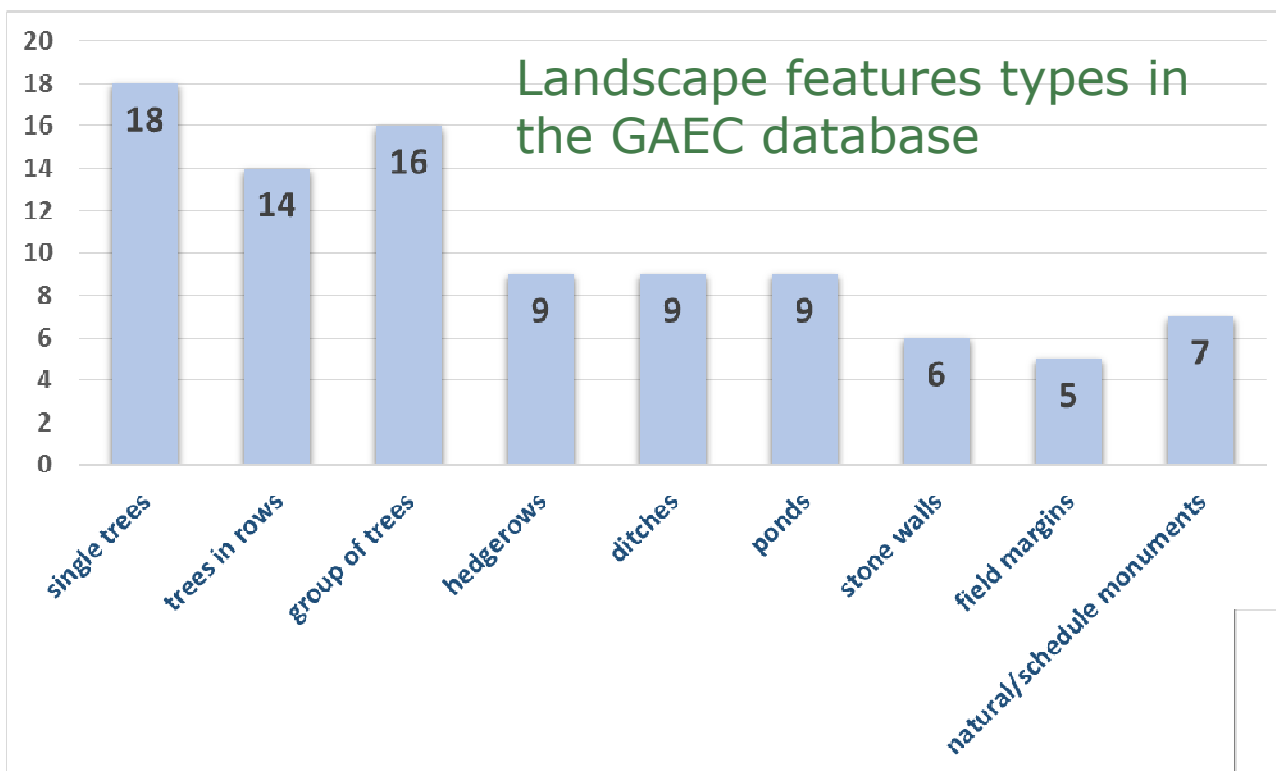
Traditional stone walls

Analysis of current GAEC requirement

LF type

LF dimensions

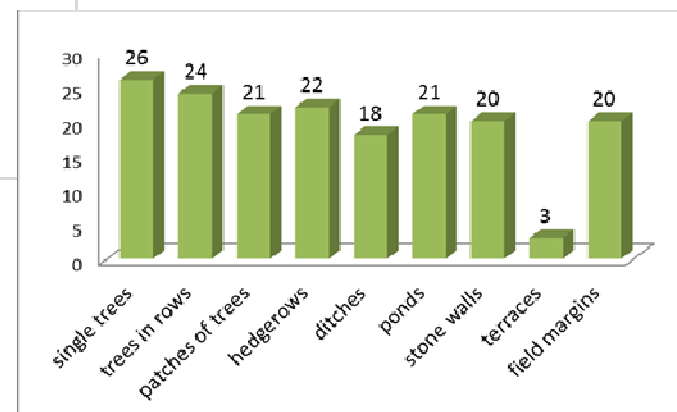
GAEC: Retention of landscape features



Notification not always contained sufficient elements e.g. "The farmer shall not remove or damage landscape features"

Often it refers only to LF in protected areas or LF listed in conservation acts

LF types in the LPIS eligibility profile



GAEC: Retention of landscape features

LF characteristics

Few MS with categorization based on the type and dimension of the features (e.g. DE)

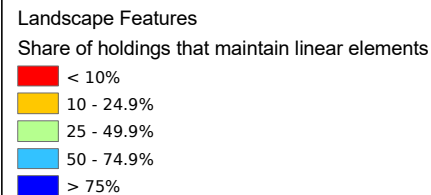
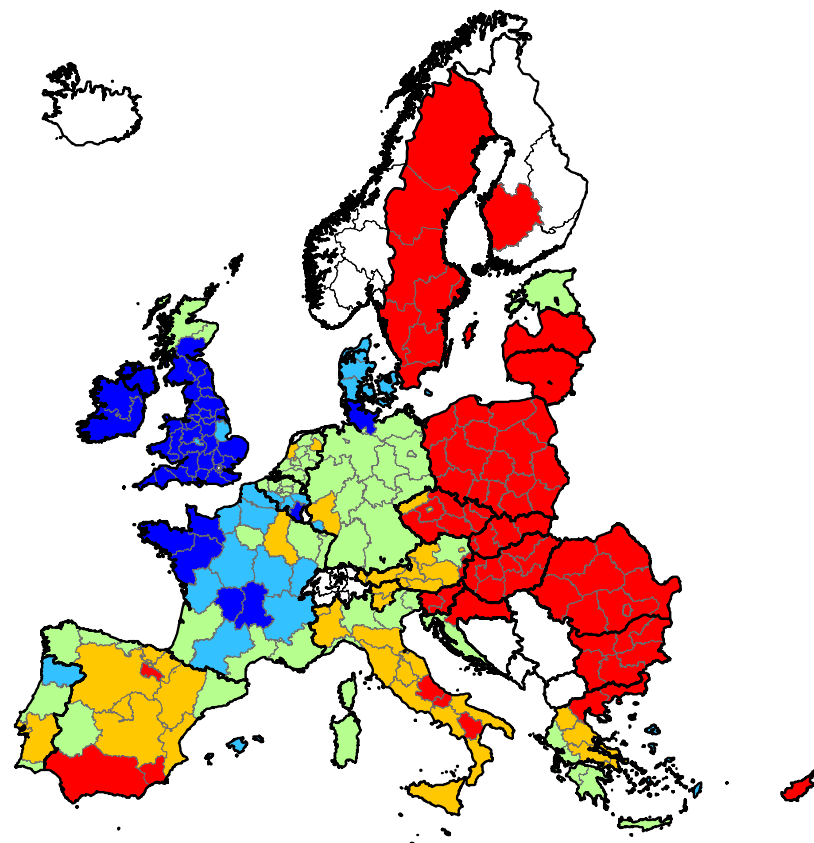
Hedge: continuous section of native shrubs min length 10 m (BE-WA)

Trees: circumference of 40 cm and 1.5 m in height (BE-WA)

Ditches: <2m wide (PL)

Water reservoir: area < 100 m² (PL)

Some statistics on landscape features



SAPM Survey on agricultural production methods

carried out in 2010

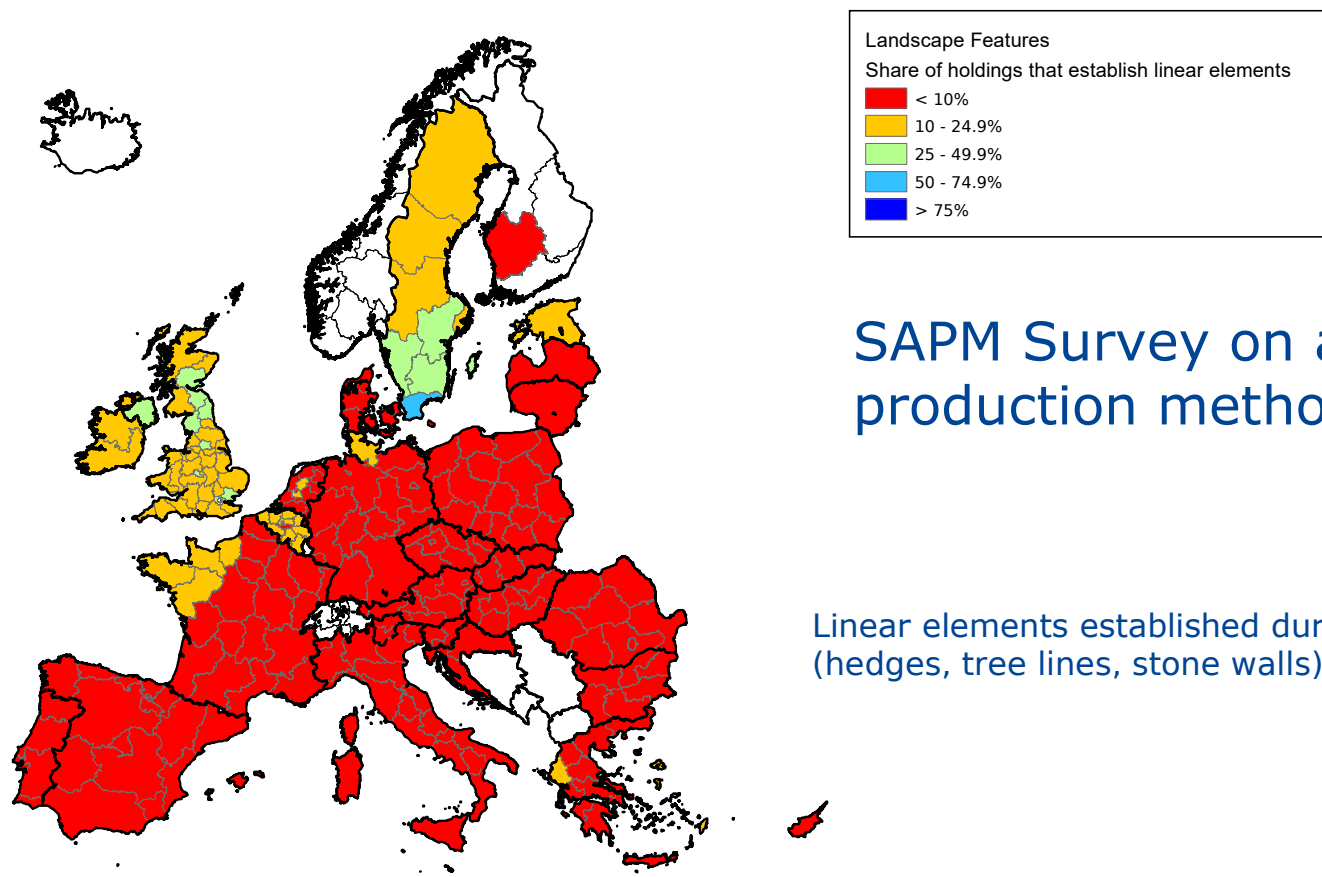
data collected on landscape features and soil conservation practices

Sample size: from 3% to 1/3 of agricultural holdings

Holding level-> it depends on holding size

Linear elements maintained by farmer during the last three years
(continuous man-made rows of trees, shrubs or bushes, stonewalls, etc., in general representing a field boundary)

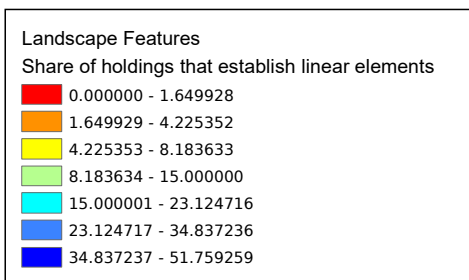
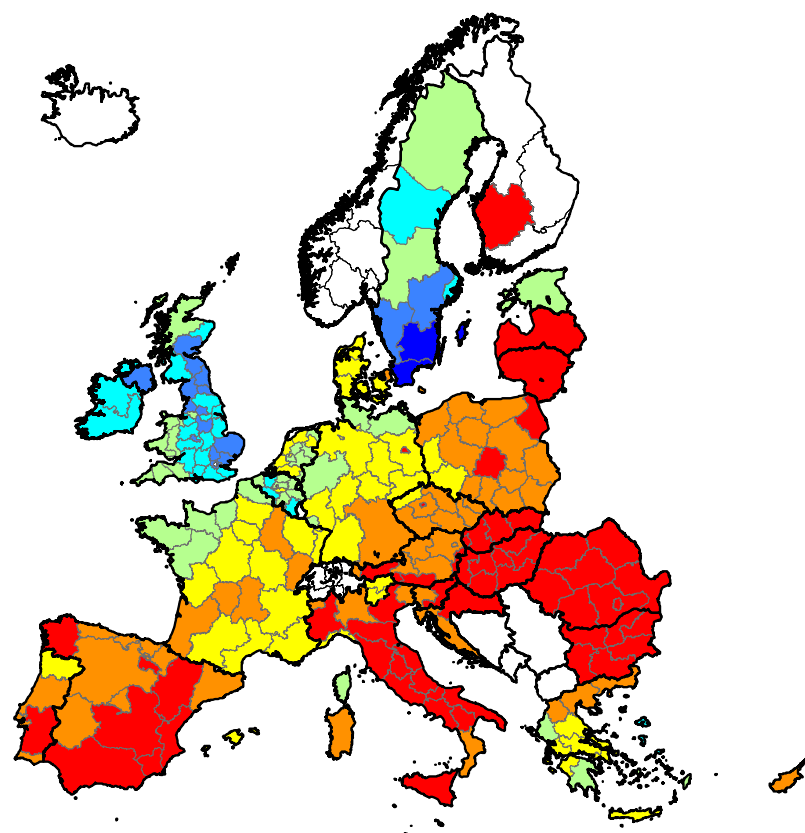
Some statistics on landscape features



SAPM Survey on agricultural production methods

Linear elements established during the last three years
(hedges, tree lines, stone walls)

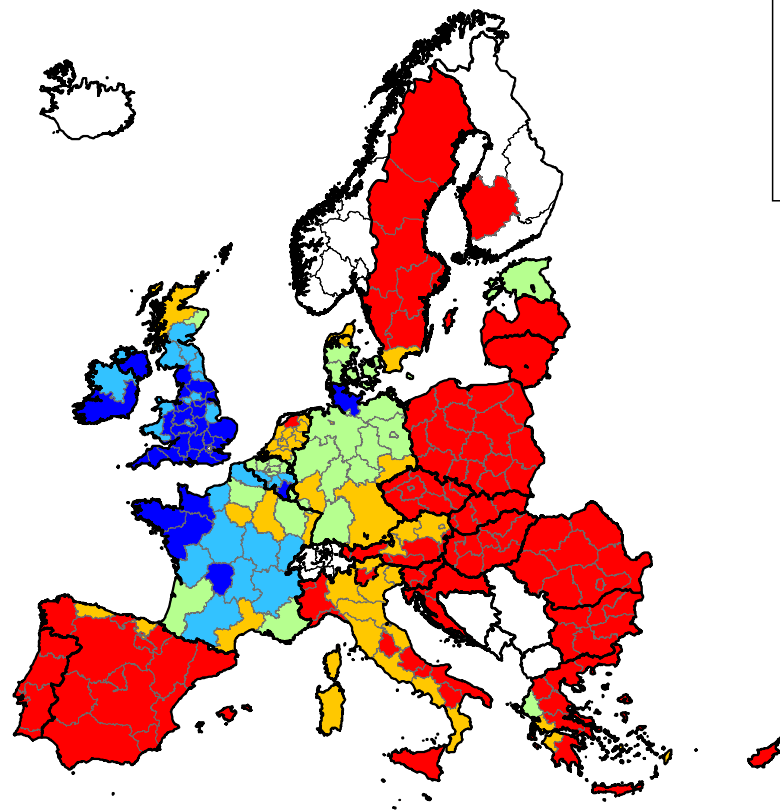
Some statistics on landscape features



SAPM Survey on agricultural production methods

Linear elements established during the last three years
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Some statistics on landscape features



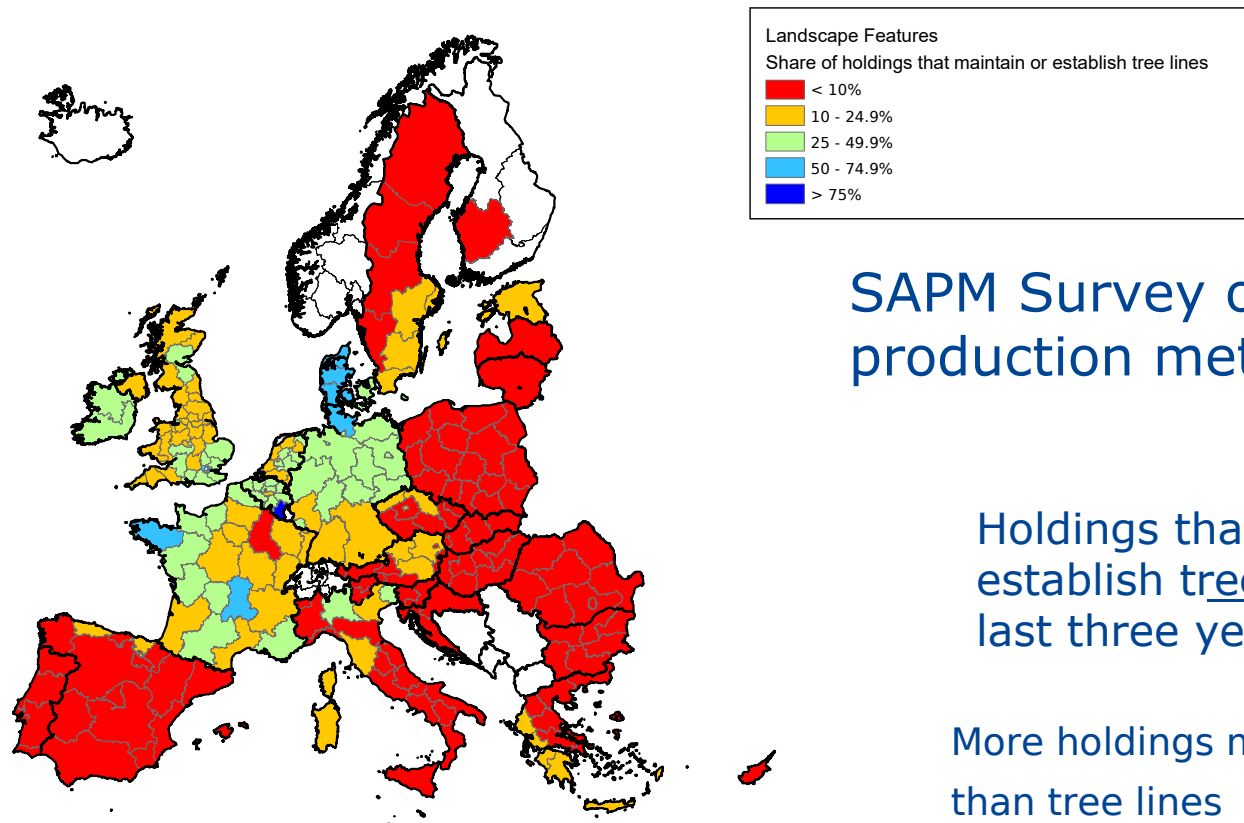
Landscape Features
Share of holdings that maintain or establish hedges

- < 10%
- 10 - 24.9%
- 25 - 49.9%
- 50 - 74.9%
- > 75%

SAPM Survey on agricultural production methods

Holdings that maintain or
establish hedges during the last
three years

Some statistics on landscape features



SAPM Survey on agricultural production methods

Holdings that maintain or establish tree lines during the last three years

More holdings maintain/establish hedges than tree lines

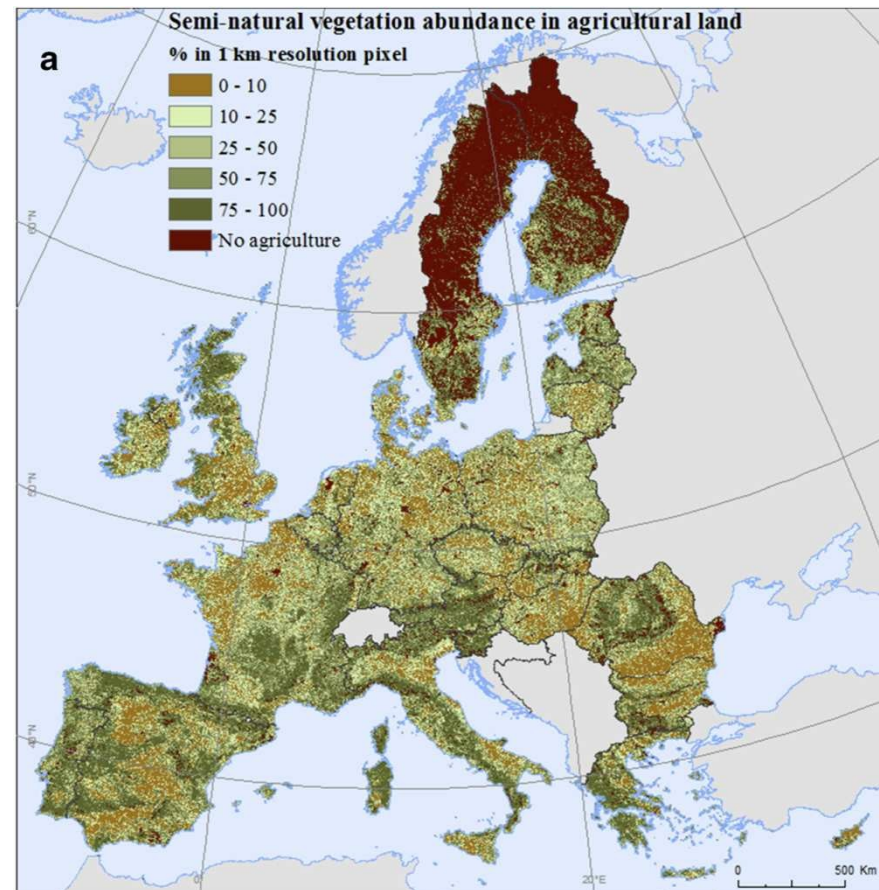
Semi-natural vegetation in agricultural land

Semi-natural vegetation in agricultural land:
European map and links to ecosystem service
supply

Celia García-Feced, Christof Jakob Weissteiner,
Andrea Baraldi, Maria Luisa Paracchini,
Joachim Maes, Grazia Zulian, Markus Kempen,
Berien Elbersen, Marta Pérez-Soba
in Agronomy for Sustainable Development,
July 2014

Land use/land cover detection
of semi-natural features (i.e.
grassland, shrubs and trees)

- areas sufficiently large
- high spectral contrast (e.g.
hedgerows and woodlots,
but not field margins and
flower strips)

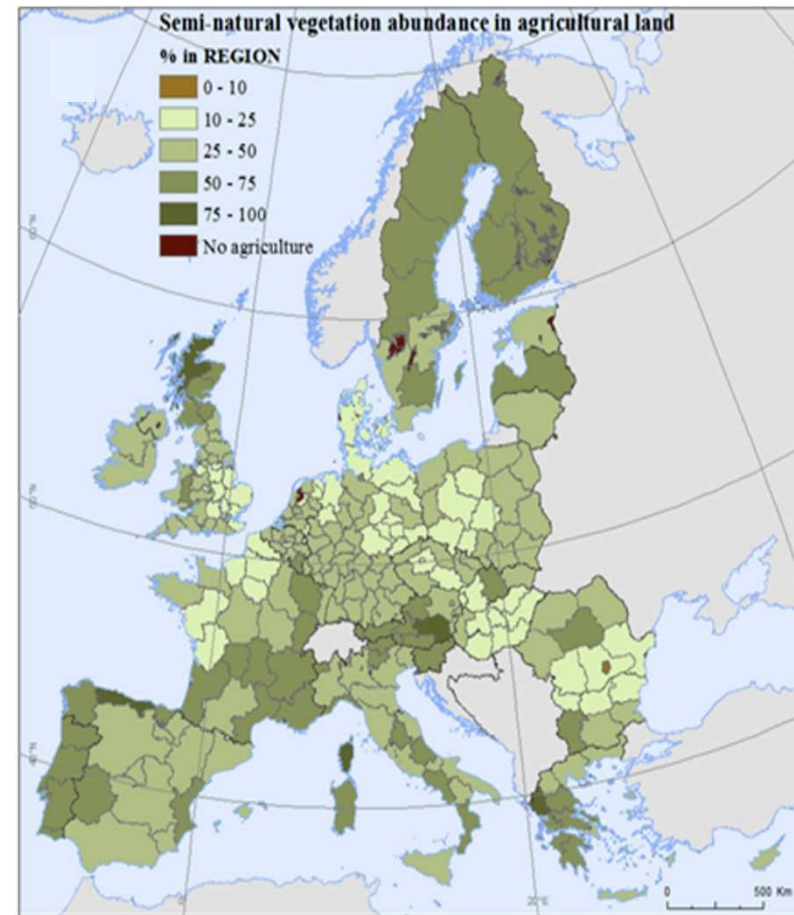


1-km-resolution map of semi-natural vegetation in agricultural land in the EU-27

Semi-natural vegetation in agricultural land

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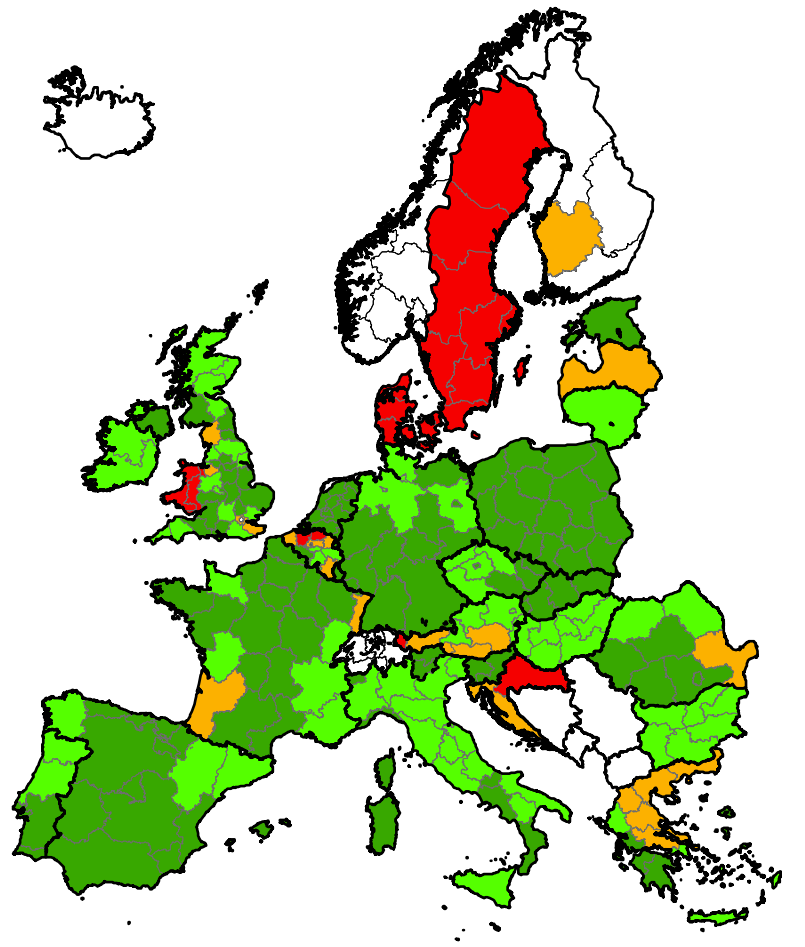


Aggregation at NUTS2 level

Crop rotation in GAEC

MS	crops	consecutive years (maximum)	parcels concerned	holdings concerned
MS	monoculture of flax, sunflower, sugar			
BG	beet, peas	2	all	all
CY	potatoes	3	all	all
	cereals	5	all	all
CZ	wide-row crops of maize, potatoes, beet, sown beans, soy and sunflower	0	block or parcels designated by the land register as seriously endangered by erosion	all
	Cereals and rapeseed	soil protective technologies (sowing in rows, mulch or sowing without tillage)	block or parcels designated by the land register as seriously endangered by erosion	all
	wide-row crops of maize, potatoes, beet, sown beans, soy and sunflower	soil protective technologies	block or parcels designated by the land register as mildly endangered by erosion	all
EE	rotation plan		if not permanent grassland, permanent crops, strawberries or medicinal plants or herbs or in case of a field smaller than 0,3 ha	all
HU	potato, sunflower, cabbage rape, soya bean, sugar beet, oil pumpkin, melon	1	all	all
	rye, wheat, triticale, barley, oat, sorghum spp; melon grafted on pumpkin	2	all	all
	tobacco and maize	3	all	all
	hybrid maize for seed production	4	all	all
IT	wheat, durum wheat, barley, rye, oats, triticale, spelt, millet, Canary Grass, maize, sorghum	5 (less for some regions)	all	all
LT	winter rape	3		
	summer rape	3		
MT	soil humus-depleting crops	3	irrigated land	all
PL	wheat, rye, barley and oat	3	all	all
	wheat, rye, barley and oat	5, provided some operation (e.g. ploughing straw, catch crops etc.) followed by winter crop or winter spontaneous vegetation cover	all	all
PT	temporary spring/summer crops		all	all
RO	Sunflower	2	all	all
SK	same root crop	2	all	all
SE	Suitable three-year crop rotation system		all	all
UK-SC	suitable break crops in an arable rotation		all	holdings that do not keep a record for 5 years of organic materials and the quantities applied to arable land

Crop rotation in SAPM



Share of arable area out of planned crop rotations
Percent of total AA that is entirely in crop rotation

< 25%
25.1 - 50%
50.1 - 75%
> 75%

Definition used by SAPM

Arable area out of planned crop rotation:
arable land that is cultivated with the
same crop for three years or more
consecutively and which is not part of a
planned crop rotation

Thanks for your attention !