

# Study Visit

## AGRICULTURE STATISTICS

**20 - 23 February 2017**  
**ISTAT – Roma**

**Annual crop statistics**

Roberto Gismondi



## INTRODUCTION

Statistics on crop products are a tool for monitoring and managing the market of crop products. They are also becoming an increasingly important instrument for evaluating agricultural policy.

Within the European Institutions, the main institutional users of crop data are: DG Agriculture, DG Health and Consumers, DG Environment, the European Parliament, the Court of Auditors and European agencies (e.g. European Environment Agency, European Food Security Agency).

Current EU statistics on crops include data on various crop products or groups of products linked to:

- cultivated, harvested and production areas
- production
- yields and agricultural land use.



# SURVEYS CONCERNING AGRICULTURAL STATISTICS

**Agricultural  
Census 2010  
and FSS**

REGULATION (EC) No 1166/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 19 November 2008

on farm structure surveys and the survey on agricultural production methods and repealing Council Regulation (EEC) No 571/88

(Text with EEA relevance)

REGULATION (EU) No 1337/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 13 December 2011

concerning European statistics on permanent crops and repealing Council Regulation (EEC) No 357/79 and Directive 2001/109/EC of the European Parliament and of the Council

(Text with EEA relevance)

**Permanent  
crops**

REGULATIONS

COUNCIL

REGULATION (EC) No 543/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 18 June 2009

concerning crop statistics and repealing Council Regulations (EEC) No 837/90 and (EEC) No 959/93

(Text with EEA relevance)

**Crop statistics**

**Commission Regulation (EC) No. 1242/2008 establishing a Community typology for agricultural holdings**

# Regulation (EC) No 543/2009

29.6.2009

EN

Official Journal of the European Union

L 167/1

I

*(Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)*

REGULATIONS


COUNCIL

REGULATION (EC) No 543/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
of 18 June 2009  
concerning crop statistics and repealing Council Regulations (EEC) No 837/90 and (EEC) No 959/93  
(Text with EEA relevance)

**defines the general framework concerning crop statistics**

## Regulation (EC) No 543/2009

- Article 1:** Subject matter
- Article 2:** Definitions and clarifications
- Article 3:** Coverage
- Article 4:** Frequency and reference period
- Article 5:** Precision requirements
- Article 6:** Transmission to the Commission
- Article 7:** Regional statistics
- Article 8:** Statistical quality and report
- Article 9:** Committee procedure
- Article 10:** Derogation
- Article 11:** Repeal
- Article 12:** Entry into force



ANNEX

Table 1

Crops from arable land

PART A

Transmission deadlines	Area under cultivation (1 000 hectares)						Harvested production (1 000 tonnes)				Yield (100 kg/ha)
	31 Jan year n	30 Jun year n	31 Aug year n	30 Sept year n	31 Jan year n + 1	30 Sept year n + 1	30 Sept year n	31 Oct year n	31 Jan year n + 1	30 Sept year n + 1	31 Aug year n
	1	2	3	4	5	6	7	8	9	10	11
	MSs above threshold	MSs above threshold	MSs above threshold	All MSs	All MSs	All MSs	All MSs	All MSs	All MSs	All MSs	MSs above threshold

The transmission tables as  
set out in the Annex

# General description of the Annual Crop Statistics at EU level

A detailed methodology can be found in the **Handbook for Annual Crop Statistics** (2016 new version).



Eurostat Handbook for Annual Crop Statistics  
(Regulation 543/2009 & ESS agreement)

Revision 2016

(Presented in the Working Group Crop Statistics  
on 14 October 2015)



## TABLE OF CONTENTS

1. INTRODUCTION.....	4
2. DEFINITIONS AND CONCEPTS.....	5
2.1 Area.....	5
2.1.1 Area under cultivation (Table 1).....	6
2.1.2 Harvested area (Table 2).....	6
2.1.3 Production area (Table 3).....	7
2.1.4 Main area (Table 4).....	7
2.2 Production.....	8
2.2.1 Reference period, harvest year.....	8
2.2.2 Production terms.....	8
2.2.3 Humidity.....	9
2.3 Specific questions on definitions and concepts.....	11
2.3.1 Dual purpose crops.....	11
2.3.2 Energy crops.....	12
2.3.3 Plants harvested green from arable land.....	12
2.3.4 Chicory.....	14
2.3.5 Crops under glass or high accessible cover.....	14
2.3.6 Cultivated Mushrooms.....	15
2.3.7 Seeds and seedlings.....	16
2.3.8 Christmas trees.....	16
2.4 Units of measurement.....	17
3. DATA AVAILABILITY, COVERAGE AND NON-SIGNIFICANT CROPS.....	17
3.1 Coverage and defining non-significant crops.....	17
3.2 Handling non-significant crops.....	19
4. AGGREGATE CALCULATION RULES.....	20
4.1 Calculation of incomplete aggregates at national level.....	20
4.2 Calculation of incomplete EU-aggregates at Eurostat level.....	21
5. EARLY ESTIMATES.....	22
6. CLASSIFICATION AND DEFINITION OF PRODUCTS.....	23
7. DATA COLLECTION PROCEDURE AND TRANSMISSION DEADLINES.....	24
7.1 Implementation of new Codes and new Web-Forms.....	24
7.2 Overview of transmission deadlines.....	25
7.3 Flags for data transmission.....	26
8. METHODOLOGICAL CHANGES AND QUALITY REPORTING.....	28
8.1 Communication of methodological changes.....	28
8.2 Methodological notes on countries.....	28
8.3 Quality assessment and reports.....	28

ANNEX I: LIST OF CROPS AND AGGREGATES USED IN ANNUAL CROP STATISTICS AND COMPARISON BETWEEN 2014 AND 2015.....	29
ANNEX II: DEFINITIONS AND EXPLANATORY NOTES ON THE CROP ITEMS AND AGGREGATES USED IN ANNUAL CROP STATISTICS.....	36
1. TABLES OF COMPREHENSIVE DEFINITIONS.....	36
TABLE 1: Crops from arable land.....	36
TABLE 2: Fresh vegetables (including melons), strawberries and cultivated mushrooms.....	47
TABLE 3: Permanent crops for human consumption.....	56
TABLE 4: Agricultural land use.....	65
2. CROSS TABLE BETWEEN FSS AND CROP STATISTICS CODING.....	72
TABLE 1: Crops from arable land.....	72
TABLE 2: Fresh vegetables (including melons), strawberries and cultivated mushrooms.....	74
TABLE 3: Permanent crops for human consumption.....	74
TABLE 4: Agricultural land use.....	76
ANNEX III: TREES SHOWING THE HIERARCHY OF THE VARIABLES.....	77
1. HIERARCHY OF UTILISED AGRICULTURAL AREA.....	77
2. HIERARCHY OF CEREALS.....	78
3. HIERARCHY OF DRY PULSES AND PROTEIN CROPS.....	79
4. HIERARCHY OF ROOT CROPS.....	79
5. HIERARCHY OF INDUSTRIAL CROPS.....	80
6. HIERARCHY OF PLANTS HARVESTED GREEN FROM ARABLE LAND.....	81
7. HIERARCHY OF FRESH VEGETABLES AND STRAWBERRIES.....	81
8. HIERARCHY OF PERMANENT CROPS FOR HUMAN CONSUMPTION.....	85
ANNEX IV: THRESHOLDS USED IN TABLE 1 OF THE CROP STATISTICS REGULATION.....	89
ANNEX V: ESS AGREEMENT ON ANNUAL CROP STATISTICS: ADDITIONAL CROP VARIABLES AND EARLY ESTIMATES.....	90
ANNEX VI: VALIDATION RULES ON DATA SENDINGS (EDAMIS-WEB- FORMS AND DATA PROCESSING).....	98
ANNEX VII: DATASETS AND DEADLINES (REGULATION 543/2009 AND ESS AGREEMENT).....	104

## Handbook for Annual Crop Statistics



# Handbook for Annual Crop Statistics (2016 version)



## The main operational aims of the Handbook are:

- ✓ to provide the Member States and the data users with common concepts and definitions
- ✓ to improve the harmonisation and comparability of data produced in the Member states and published by Eurostat;
- ✓ **to present the new definitions and explanatory notes on the products listed in the Regulation, harmonised with the Farm Structure Survey definitions;**
- ✓ to set out more clearly the thresholds and the non-significant crops contained in the Regulation



# Why annual crop statistics are important in Italy?

## Community requirements for:

REGULATION (EC) No 543/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 June 2009 concerning crop statistics and repealing Council Regulations (EEC) No. 837/90 and (EEC) No. 959/93.



## For national and regional needs:

- ❖ Ministry of Agriculture;
- ❖ Regions
- ❖ Associations
- ❖ National accounts Office in Istat
- ❖ other users



# Annual Crop Statistics

SURVEY	OBJECT	TECHNICAL SURVEY	ACTORS	DESCRIPTION
Cultivated area and production of tobacco, rice and sugarbeet roots collected by sugar factories	Cultivated area and production of rice Cultivated area and production of tobacco sugarbeet roots collected by sugar factories	Administrative source	Agea, Ente risi, Absi	Based on data provided from AGEA for tobacco, Ente Risi for rice and Absi for sugar beat.
Utilization of grape production	Wine grapes and table grapes	Questionnaire paper	Regions	Production of wine grapes and table grapes
Estimate of the area and wine making wine for administrative data	Wine grapes and table grapes	Mix mode (questionnaire and administrative source)	Agea/Regions	Area under vine and wine grapes and table grapes and production
Survey on forecasting of some herbal crops sowing	Early estimates in herbal crops	Telephone survey	Agricultural holding	Areas to invest in herbal crops sowing
Estimate of crop, flower and pot plant production and area	Flower-growing - Cultivated surface and production Pot plant production Surface for pot plant production	Expert's estimate Sending circular and questionnaires	Regions	Statistics are produced using expert information

## Annual Crop Statistics

The available auxiliary information from statistical (agricultural census) or administrative registers has been used.

The following statistical sources have been used for the evaluation of the data :

- ❖ 2010 Agricultural Census
- ❖ 2012 Permanent crops survey
- ❖ 2013 FSS
- ❖ Administrative source (for example: AGEA (General Agency for Agricultural Subsidies) Archive; Vineyard Land Register)

This method is developed on the hypothesis that the differences between two data sources depend on the differences due to the classification schemes, the reference time, or observation field, the sampling error

Table 3 – reg. 543/2009

**Census 2010 data** : do not concern production, only surfaces. Census data may be used for estimating the surface of Vineyards for wine.

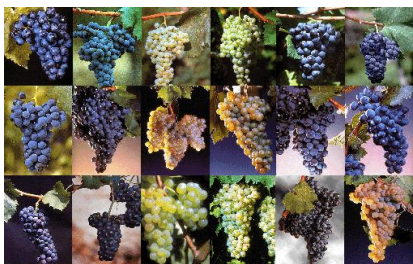


Transmission deadlines		Production area (1 000 hectares)	Harvested production (1 000 tonnes)	
		31 March	31 March	30Sept
		Year n+1	Year n+1	Year n+1
		1	2	3
PERMANENT CROPS		X		
Vineyards (1)		X	X	
Vineyards for wine		X	X	
ofwhich:	Wines with protected designation of origin	X	X	
	Wines with protected geographical indication	X	X	
	Other wines	X	X	
Vineyard for table grapes		X	X	
Vineyard for raisins		X	X	
Olive trees (1)				
Olive trees for table olives		X	X	
Olive trees for olive oil		X	X	

**Census 2010 data** : do not concern production, only surfaces. Census data and Permanent crops may be used for estimating the surface of olive trees for table olive and olive oil



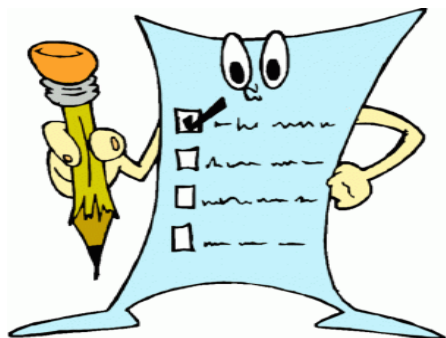
# Utilization of grape production (until 2015)



- ✓ Wine year
- ✓ Regions and autonomous Provinces
- ✓ Statistics are produced using expert information



Validity period since 30/11/2014  
(provisional data)  
31/01/2015 (final data)



Questionnaire paper /web  
(integrated administrative data)



Geographical area: provincial and  
Regions level

# Estimate of the wine surface and wine production from administrative data

<b>Vite</b>						
- <b>Vite per uva da vino</b>	W1100	D04	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>	<input type="text"/>
-- Uve per i vini con denominazione di origine protetta (DOP)	<input type="checkbox"/> W1110	D04	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>	<input type="text"/>
-- Uve per i vini con indicazione geografica protetta (IGP)	<input type="checkbox"/> W1120	D04	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>	<input type="text"/>
-- Uve per altri vini	<input type="checkbox"/> W1190	D04	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>	<input type="text"/>
Uva da tavola	<input type="checkbox"/> W1200	D04	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>	<input type="text"/>
Uva per altri scopi	<input type="checkbox"/> W9000	D04	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>	<input type="text"/>
<b>Vino (hl)</b>	<input type="checkbox"/> W2000_I	D04			<input type="text" value="0"/>	<input type="text" value="In ettolitri"/>
- <b>Vino DOP (hl)</b>	<input type="checkbox"/> W2100_I	D04			<input type="text" value="0"/>	<input type="text" value="In ettolitri"/>
- - Bianco DOP (hl)	<input type="checkbox"/> W2110_I	D04				<input type="text" value="In ettolitri"/>
- - Rosso e Rosato DOP (hl)	<input type="checkbox"/> W2120_I	D04				<input type="text" value="In ettolitri"/>
- <b>Vino IGP (hl)</b>	<input type="checkbox"/> W2200_I	D04			<input type="text" value="0"/>	<input type="text" value="In ettolitri"/>
- - Bianco IGP (hl)	<input type="checkbox"/> W2210_I	D04				<input type="text" value="In ettolitri"/>
- - Rosso e Rosato IGP (hl)	<input type="checkbox"/> W2220_I	D04				<input type="text" value="In ettolitri"/>
- <b>Vino da tavola (hl)</b>	<input type="checkbox"/> W2300_I	D04			<input type="text" value="0"/>	<input type="text" value="In ettolitri"/>
- - Bianco (hl)	<input type="checkbox"/> W2310_I	D04				<input type="text" value="In ettolitri"/>
- - Rosso e Rosato (hl)	<input type="checkbox"/> W2320_I	D04				<input type="text" value="In ettolitri"/>
- <b>Mosti (hl)</b>	<input type="checkbox"/> W3000_I	D04				<input type="text" value="In ettolitri"/>

Information included in the March 2016 model. Mod.ISTAT / A.5 / M.MARZ

## Estimate of crop, flower and pot plant production and area

Statistics are produced using expert information. Data are provided by local authorities that collect experts evaluations on area and yield of different crops. The auxiliary information could be included in expert's estimate, such as verifying the availability of external sources (eg professional bodies or associations of producers, administrative sources, auxiliary sources of data related to the cultivation being estimated).

Crops under investigation are different for each month and take into account the phenologic stage of cultivation. For this reason more than one estimate can be determined for each crop during the year: (**provisional, temporary or final**).





## Comparing results - Permanent crops vs current crop statistics

Structural statistics on orchards are a tool monitoring and managing the market of fruit products.

Structural statistics on orchards provide also the background for annual crop statistics (Regulation 543/2009), which cover the annual production area and production.

Structural statistics on orchards provide the mapping of fruit varieties against the variety groups.

Current EU statistics on orchards include data on structure of orchards.

They cover the variety groups, age and density data.

The statistics are collected every 5 years.

Table 4  
Agricultural land use

Transmission deadline	Main area (1 000 hectares)
Utilised agricultural area	R
Arable land	R
Cereals for the production of grain (including seed)	X
Dried pulses and protein crops for the production of grain (including seed and mixtures of cereals and pulses)	X
Potatoes (including early potatoes and seed potatoes)	X
Sugar beet (excluding seed)	X
Industrial crops	X
Fresh vegetables, melons and strawberries	X
Flowers and ornamental plants (excluding nurseries)	X
Plants harvested green	X
Other arable-land crops	X
Fallow land	R
Permanent grassland	R
Permanent crops	X
of which: Fruit and berry plantations	R
Olive plantations	R
Vineyards	R
Nurseries	X

**Reg. EC - 543/2009**  
**Table 4 -**  
**Agricultural land use**

# Comparing results - Permanent crops vs current crop statistics – Year 2012

Planted area by species	2012			
	Permanent crops	Crop statistics		percentage differences ACS / PC
	Total area (in hectares)	Total area (in hectares)	Production area (in hectares)	Total area (in hectares)
Apple	52.251	54.684	51.872	4,4
Pear	30.183	35.195	32.803	14,2
Peach and nectarine	62.104	71.012	66.239	12,5
Apricot	16.591	19.186	17.753	13,5
Orange	77.519	83.514	81.270	7,2
Lemon	15.843	25.703	21.023	38,4
Small citrus fruit	31.133	35.515	34.546	12,3
Table grapes	35.663	53.885	50.656	33,8
Olive	1.110.701	1.125.382	1.100.303	1,3
Actinidia/Kiwi	24.818	24.327	22.636	-2,0
Cherry	23.342	29.736	28.484	21,5

**Other nationally relevant species of fruit trees, such as kiwis and cherries, were surveyed**

# Comparing results FSS with current crop statistics – Year 2013

Planted area by species	2013		
	Permanent crops FSS	Crop statistics	Percentage differences ACS / PC FSS
	Total area (in hectares)	Total area (in hectares)	Total area (in hectares)
Vineyard	635.979	725.564	14,1
Olive	1.073.324	1.146.863	6,9
Citrus fruit	129.155	152.975	18,4
Fruits	388.808	405.075	4,2
Nurseries	26.606	NA	-
Others permanent crops	5.724	NA	-
Greenhouses	383	NA	-
<b>Total</b>	<b>2.259.979</b>	<b>2.430.477</b>	<b>7,5</b>

# Reasons explaining differences

The FSS survey includes:

- young fruit and berry plantations which are not yet in production;
- abandoned permanent crops with a possibility of reversibility;
- isolated trees.

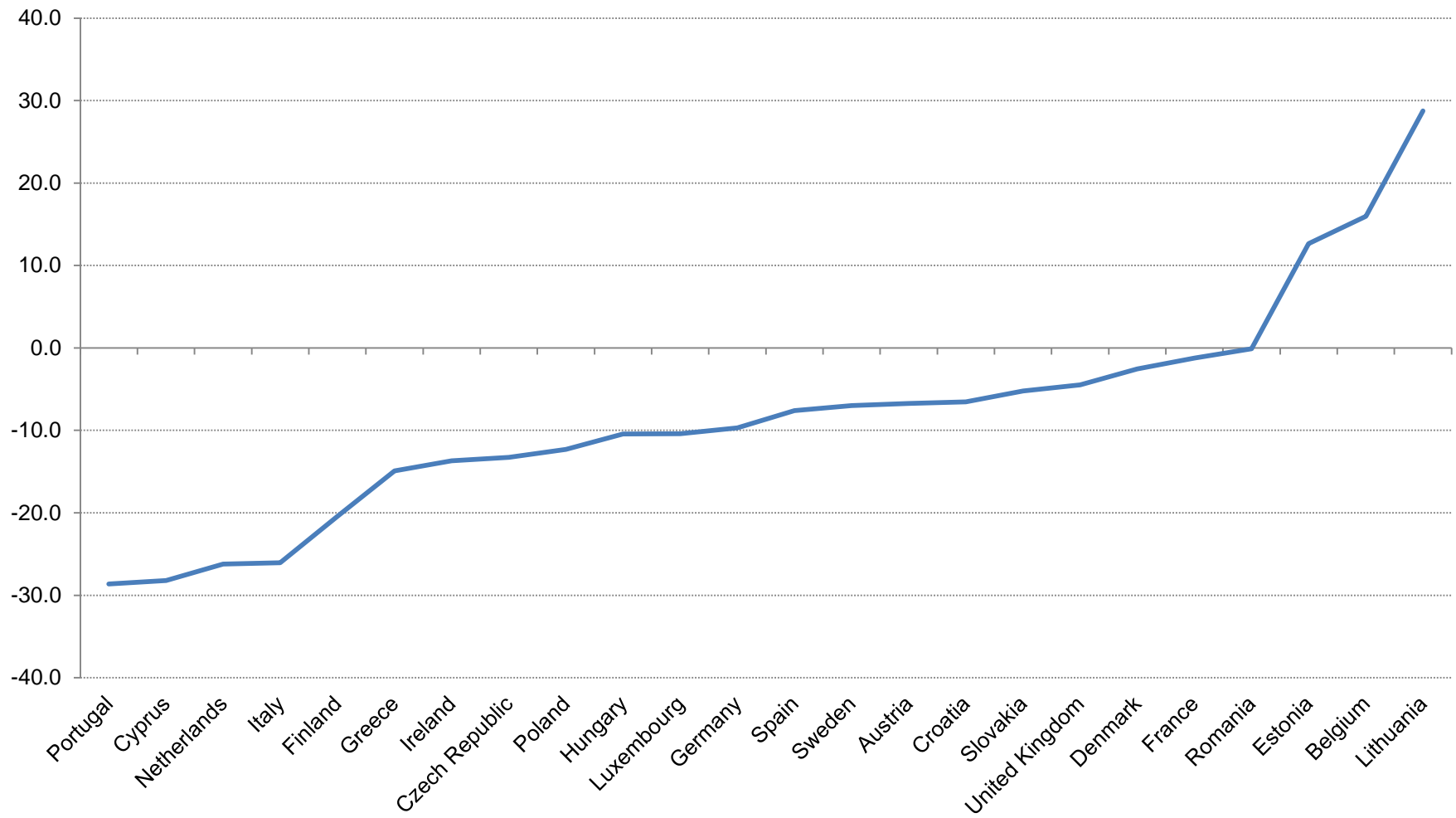
All these areas are excluded in the crop production survey

## The statistics on permanent crops vs the annual statistics

	PERMANENT CROPS	ANNUAL CROPS
LEGISLATION	Reg. EC 1337/ 011	Reg. EC 543/2009
TYPE	structural statistics	annual short-term statistics
OBSERVED UNITS	Agricultural holdings	Area and production
OBSERVED PHENOMENA	Agricultural surface Cultivars Number of plants grown Year of crop planting	Agricultural production Cultivated surface and production Surface and production of crops
PERIODICITY	2012 – 2017	Annual

## Agricultural surfaces used for cereals in the EU

*Percent changes 2016/2008 by country*





## Agricultural surfaces used for cereals in the EU

*Time series 2008-2016*

