

## 1. HISTORICAL OUTLINE

The Agricultural Census (AC) is carried out every ten years in Italy. Six agricultural censuses have been conducted, in the years 1961, 1970, 1982, 1990, 2000 and the latest in 2010.

## 2. LEGAL BASIS AND ORGANIZATION

### **Legal framework**

Article 15 of Legislative Decree No. 322/89 identifies the National Statistical Office (Istat) as the agency in charge of census activities. General measures for the sixth AC are stated in Legislative Decrees No. 135 of 25 September 2009 and No.166 of 20 November 2009. The Decree of the President of the Republic No. 154 of 23 July 2010 establishes the rules governing its execution. The AC 2010 complies with the relevant EU legislation.<sup>1</sup>

### **Institutional framework and international collaboration**

The institution responsible for carrying out the censuses is Istat. For the AC 2010, the regions and the Autonomous Provinces of Bolzano and Trento had to decide the level of their involvement in the census, i.e. between a high- and an integrative-participation level model. Depending on the model chosen, the enumerators were selected by the region or by the municipality, or by an intermediate administrative level. A census committee was created with advisory functions. It was composed of members of Istat, regions, the Ministry of Agriculture, research institutes and representatives of municipalities and provinces.

### **Census staff**

The census personnel involved in census data collection included 13 236 enumerators and 461 coordinators, supervised by 93 responsible persons from Istat regional offices. The average charge was 155 holdings per enumerator.

## 3. REFERENCE DATE AND PERIOD

**Reference day:** 24 October 2010, for inventory items such as legal status and management system of the holding, total area and UAA of holding and livestock numbers.

### **Reference periods:**

- the agricultural marketing year (from 1 November 2009 to 31 October 2010), for the information on land use, agricultural and animal production methods, labour force and other gainful activities related to the farms;
- the 12 months preceding 24 October 2010, for items on the professional status of the holder, on his/her family and relatives, on the head of farm, and on the agricultural skills of the farm manager;
- the last three years (2008–2010), for items on landscape features and rural development support.

## 4. ENUMERATION PERIOD

The fieldwork started on 25 October 2010 and ended on 31 January 2011, with the exception of one region, where data collection lasted until 16 May 2011.

## 5. SCOPE OF THE CENSUS AND DEFINITION OF THE STATISTICAL UNIT

The **census scope** covered agricultural activities (crop and animal production).

The **statistical unit** is the agricultural holding, defined as a single unit, both technically and economically, which has a single management and which undertakes the agricultural activities listed in Annex I to the European Parliament and Council Regulation (EC) No. 1166/2008 within the economic territory of the EU, as either its primary or secondary activity.

Specific actions have been implemented to include all common lands with UAA<sup>2</sup> in the AC 2010.

## 6. GEOGRAPHIC COVERAGE

The AC 2010 covered the entire country.

## 7. CUT-OFF THRESHOLD AND OTHER EXCLUSIONS

The following thresholds were applied for the agricultural holdings in the AC 2010: (i) regional thresholds for the UAA (from 0.2 to 0.4 ha, depending on region); and (ii) animals or their products, wholly or partially intended for marketing.

No thresholds were applied for holdings growing vegetables, flowers and ornamental plants, nor for those with vineyards and fruit trees (because of their significant economic value).

## 8. METHODOLOGY

### **Methodological modality for conducting the census**

The classical approach was used in the AC.

<sup>1</sup> (i) 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 and (ii) Commission Regulation (EC) No. 1200/2009 of 30 November 2009 implementing Regulation (EC) No. 1166/2008 of the European Parliament and of the Council on farm structure surveys and the survey on agricultural production methods, as regards livestock unit coefficients and definitions of the characteristics.

<sup>2</sup> Area where the agricultural activity takes place, specifically grazing.

## Frame

The pre-census list of agricultural holdings was established based on the integration of administrative and statistical sources that contain information concerning the target population.<sup>3</sup>

## Complete and/or sample enumeration methods

The AC was conducted using complete enumeration.

## Sample design (if sampling was used)

Not applicable.

## Data collection method(s)

Data collection has been carried out through two alternative techniques: (i) traditional, face-to-face interviewing (PAPI) method; or (ii) the new, self-interviewing (CAWI) method.

## Questionnaire(s)

There was one comprehensive census questionnaire, available either in print form or as an Internet-based electronic version that could be completed online. It was available in four languages (Italian, German, English and Slovenian). The questionnaire was used to collect both farm structure characteristics as well as items related to agricultural production methods.

The questionnaire included all 16 core items recommended in the WCA 2010.

## 9. USE OF TECHNOLOGY

CAWI was used for data collection. CATI was applied for the re-interview PES. The census results were released online.

## 10. DATA PROCESSING AND ARCHIVING

Manual data entry was used (for paper questionnaires) along with direct data capture (when CAWI was used). Non-sampling errors were identified and treated by an Editing and Imputation System. For detecting outlier values, a special procedure based on the robust technique of Forward Search was implemented, in partnership with the University of Parma and centrally applied by ISTAT.

The imputation process used was a combination of the following methodologies: (i) deductive imputation, if the values to impute are uniquely determined by the values assumed by other variables; (ii) rule-based imputation (based on deterministic “if then” rules); (iii) nearest neighbour imputation; (iv) model-based imputation (preferred for the imputation of continuous variables); and (v) interactive imputation.

Administrative sources were used for the preparation of the pre-census list, for data control and correction.

## 11. CENSUS DATA QUALITY

To evaluate the quality of the AC 2010, Istat implemented two PESs (“post-census surveys”): a Coverage Survey (CS) and a Re-Interview Survey (RIS). The CS was designed to obtain reliable estimates of under- or overcount, using another independent list of units existing in a sample of cadastral maps. The RS was carried out through a re-interview of a sample of agricultural holdings already interviewed in the AC to estimate response error due to respondents and/or enumerators. The survey was carried out from May 2011 to January 2012 on a sample of approximately 50 000 holdings, selected with one-stage stratified sample from the census frame. The survey was conducted using CATI.

## 12. DATA DISSEMINATION AND USE

Preliminary results were disseminated in July 2011 through a press release and 23 tables were made available to users on the Istat website. The final results were released in July 2012. The main dissemination method was the Internet.

## 13. DATA SOURCES

**Eurostat.** 2019a. Archive: Agricultural census in Italy. In: *European Commission: Eurostat* [online]. Luxembourg. [Cited 26 August 2019]. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Agricultural\\_census\\_in\\_Italy](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Agricultural_census_in_Italy)

**Eurostat.** 2019b. Database, Agriculture, forestry and fisheries. In: *European Commission: Eurostat* [online]. Luxembourg. [Cited 26 August 2019]. <https://ec.europa.eu/eurostat/data/database>

**Istituto Nazionale di Statistica (Istat).** 2012. *Farm Structure Survey 2009/2010. Survey on agricultural production methods 2009/2010.* National Methodological Report, Eurostat. (also available at [http://ec.europa.eu/eurostat/documents/749240/749313/IT\\_NMR\\_FSS\\_2010\\_vers2.pdf/9f98a6b9-2b70-4b1e-b5d6-4d5744595f00](http://ec.europa.eu/eurostat/documents/749240/749313/IT_NMR_FSS_2010_vers2.pdf/9f98a6b9-2b70-4b1e-b5d6-4d5744595f00)).

## 14. CONTACT

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<sup>3</sup> The specific administrative sources used to build the list were: the IACS, the System for the Identification and Registration of Bovine Animals and other species, the Lands' Property Incomes, and the Land Registry. The general sources were: the Chambers of Commerce, the VAT and Tax Revenue declarations. Statistical sources were the CA 2000 and the Register of Businesses.

# ITALY– AGRICULTURAL CENSUS 2010 – MAIN RESULTS<sup>1</sup>

NUMBER OF HOLDINGS AND AREA, BY LEGAL STATUS		
	Holdings	Area (ha)
<b>Total</b>	<b>1 620 880</b>	<b>17 080 850</b>
Civil persons	1 603 710	13 990 560
An individual (sole holder holdings) <sup>2</sup>	1 603 710	13 990 560
Juridical persons (legal entities)	17 180	3 090 290

LAND TENURE		
	Holdings	UAA (ha)
<b>Total</b>	<b>1 620 880</b>	<b>12 856 050</b>
Legal ownership and owner-like possession (owned land)	1 525 870	8 340 390
Rented from others (land rented)	260 290	3 797 840
Other form of tenure (shared farming or other modes)	7 730	717 820

DISTRIBUTION OF UAA, BY LAND SIZE CLASSES		
	Holdings	UAA (ha)
<b>Total</b>	<b>1 620 880</b>	<b>12 856 050</b>
Holdings without UAA	5 290	
Holdings with UAA	1 615 590	12 856 050
Less than 2 ha	819 360	726 990
2–4,99 ha	357 670	1 119 850
5–9,99 ha	186 150	1 295 300
10–19,99 ha	120 120	1 663 480
20–29,99 ha	46 690	1 128 980
30–49,99 ha	40 920	1 556 920
50–99,99 ha	29 210	1 994 070
100 ha and over	15 490	3 370 460

LAND USE		
	Holdings	Area (ha)
<b>Total</b>	<b>1 620 880</b>	<b>17 080 850</b>
UAA	1 615 590	12 856 050
Arable land	828 390	7 009 310
Land temporarily fallow	172 820	547 720
Land under permanent crops	1 192 080	2 380 770
Permanent meadows and pastures	274 490	3 434 070
Kitchen garden	387 240	31 900
Other land	1 140 250	4 224 800
Wooded area	344 740	3 002 670
Unutilised agricultural land and other areas	1 073 400	1 222 140

MANAGERS BY SEX <sup>3</sup>		
	Number	UAA operated (ha)
<b>Total</b>	<b>1 620 880</b>	<b>12 856 050</b>
Male	1 123 040	10 203 600
Female	497 850	2 652 450

MEMBERS OF HOLDER'S HOUSEHOLD, BY SEX <sup>4</sup>	
	Number
<b>Total engaged in agricultural activities on the holding</b>	<b>1 625 860</b>
Male	753 880
Female	871 980

LABOUR FORCE OF THE HOLDING	
	Number
<b>Total</b>	<b>3 392 700</b>
Male	1 944 280
Female	1 448 420
Family labour force	3 229 560
Male	1 825 720
Female	1 403 830
Regular non-family labour force	163 150
Male	118 560
Female	44 590

MANAGERS BY SEX AND AGE <sup>3</sup>	
	Number
<b>Total</b>	<b>1 620 880</b>
Male	1 123 040
Female	497 850
Less than 35 years	82 110
Male	61 410
Female	20 710
35–44 years	203 480
Male	140 880
Female	62 600
45–54 years	338 050
Male	228 280
Female	109 770
55–64 years	393 860
Male	267 990
Female	125 870
65 years and over	603 390
Male	424 490
Female	178 900

LIVESTOCK		
	Holdings	Head
<b>Total holdings with livestock</b>	<b>217 330</b>	
Cattle	125 880	5 952 990
Sheep	51 100	6 782 180
Goats	22 760	861 940
Pigs/swine	26 200	9 331 310
Equines (Equidae)	45 360	219 160
Poultry (1 000 head)	n.a.	n.a.
Broilers	13 210	94 950
Laying hens	18 750	44 100
others	6 320	28 470
Other animals	n.a.	
Rabbits (breeding females)	7 470	876 960
Other	7 190	
Insects		
Bees (hives)	6 400	661 240

METHODS OF IRRIGATION		
	Holdings	Irrigable area (ha)
<b>Total holdings with irrigable area</b>	<b>544 980</b>	<b>3 734 850</b>
<b>Holdings with irrigated area<sup>5</sup></b>	<b>398 490</b>	<b>2 408 350</b>
Surface	143 980	n.a.
Sprinkler	167 500	n.a.
Localized irrigation (drop irrigation)	113 800	n.a.

<sup>1</sup> Data source – Eurostat database, available at: <https://ec.europa.eu/eurostat/web/agriculture/data/database>

<sup>2</sup> The categories in brackets are presented as indicated in the Eurostat database (if different from the WCA 2010).

<sup>3</sup> According to Eurostat, managers include holders that manage the holding themselves, and managers that are not holders, including of legal units

<sup>4</sup> Data are presented without holders,

<sup>5</sup> Excluding kitchen garden and area under glass.