

## 1. HISTORICAL OUTLINE

Luxembourg has participated in the WCA programme since the 1950 round. An agricultural census covering crops and livestock is undertaken annually, following almost the same criteria and definitions since 1953. Until 2010, the censuses were organized using an indirect data collection approach (that is, via municipalities). The Agricultural Census (AC) 2010, to which the metadata review and census data reported here relate, was conducted based on direct data collection.

## 2. LEGAL BASIS AND ORGANIZATION

### **Legal framework**

The legal basis for the AC 2010 was provided by:

- the modified Law of 9 July 1962 organizing the National Institute of Statistics and Economic Studies (STATEC), which allows STATEC to carry out and/or coordinate public interest surveys for exclusively statistical purposes; and
- EU regulations related to the FSS.

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

The institutions involved in census organization were:

- STATEC, as a census coordinator, to ensure completion of data collection and that was in charge of the survey. STATEC was responsible for collecting the data related to machinery, labour force, other gainful activities and agricultural production methods; and
- the Rural Economy Service (*Service d'économie rurale*, SER), a department of the Ministry Agriculture (MoA), as the data provider for administrative data and the national producer of economic accounts of agriculture. The SER was responsible for the collection of data on land area, livestock, organic farming and rural development.<sup>1</sup>

### **Census staff**

No additional census staff were involved in the AC 2010 (for more details see section 8).

## 3. REFERENCE DATE AND PERIOD

### **Reference days:**

- 1 April 2010, for land area, livestock and rural development; and
- 15 May 2010, for other characteristics.

### **Reference periods:**

- the 12-months period ending on 15 May 2010, for labour force characteristics;
- the last three years (2007, 2008 and 2009), for rural development characteristics.

## 4. ENUMERATION PERIOD

At the beginning of April 2010, the agricultural holders received the STATEC questionnaire (reference date 15 May 2010) together with the SER application forms for subsidies (reference date 1 April 2010). The questionnaires were returned to the SER in May and June 2010 and then transferred as a single package to STATEC at the end of June 2010.

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

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

The **statistical unit** was the agricultural holding, defined as a single unit, both technically and economically, which has a single management and which undertakes 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. The thresholds established for statistical units in the AC are presented in section 7.

## 6. GEOGRAPHIC COVERAGE

The AC 2010 covered the entire country.

## 7. CUT-OFF THRESHOLD AND OTHER EXCLUSIONS

The agricultural holdings that met at least one of the following criteria had to participate in the AC:

- at least 3 ha of UAA;
- at least 0.25 ha of fresh vegetables, melons and strawberries, flowers and ornamental plants, or at least 0.30 ha of fruit and berry plantations or at least 0.50 ha of nurseries;
- at least 0.10 ha of vineyards;
- at least ten horses/donkeys, ten bovines, 20 sheep, 20 goats, 50 pigs, 1 000 laying hens, 1 000 other poultry or 1 000 rabbits.

With these thresholds, the AC covered 99.95 percent of the total UAA and 99.89 percent of the total livestock units.

<sup>1</sup> Land area and livestock data come from the application forms for subsidies, which were sent to all agricultural holdings. Data on organic farming are sources from the Organic Farming Register and data on rural development are provided by the MoA. These data sets were merged and made available to STATEC as an administrative source to minimize the statistical burden on agricultural holdings.

## 8. METHODOLOGY

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

The classical approach was used in the AC. Administrative registers were used as a source of census data to cover most AC variables.

### **Frame**

The frame was established based on the Register of Agricultural Holdings of the MoA, managed by the SER.

### **Complete and/or sample enumeration methods**

The AC 2010 was conducted based on the complete enumeration of agricultural holdings that met national definition of statistical unit.

### **Sample design (if sampling was used)**

Not applicable.

### **Data collection method(s)**

Most of the AC data came directly from administrative sources gathered by the SER and provided to the STATEC.<sup>2</sup> Data not available in administrative sources were obtained using census questionnaires collected directly from the holders, by post.

### **Questionnaire(s)**

There was a single detailed census questionnaire for all holdings, irrespective of their size, consolidating the questions from both the AC and the SAPM. The survey questionnaires were sent directly to agricultural holdings via the SER, together with the subsidy application forms, and then returned by post to STATEC via the SER.

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

## 9. USE OF TECHNOLOGY

Administrative data to replace (partially) the field data collection and online dissemination of census results were used in the AC 2010.

## 10. DATA PROCESSING AND ARCHIVING

Data entry of the survey questionnaires was done by the STATEC staff from July 2010 onwards, using the BLAISE software tool for managing survey forms. Data entry involved manual inputting of data. In autumn 2010, the administrative sources obtained through the SER were combined with the survey data using an official common identifier form a combined micro data set. Microdata validation was performed at STATEC to check the accuracy and plausibility of both the survey and the administrative data.<sup>3</sup>

Item nonresponse was addressed using cold-deck imputation, hot deck imputation and, to a lesser extent, ratio imputation as well as deductive imputation.

## 11. CENSUS DATA QUALITY

The unit nonresponse rate was 2.7 percent. The administrative data of the SER were tested for multiple listing and misclassification errors.

## 12. DATA DISSEMINATION

The AC 2010 publications, data and tables are all available online on the Luxembourg statistics portal.

## 13. DATA SOURCES

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

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

**Statistics Portal Grand Duchy of Luxembourg.** 2012. *Farm Structure Survey 2010 Survey on agricultural production methods 2010. National Methodology Report.* (also available at <https://statistiques.public.lu/en/methodology/methodes/enterprises/Agriculture/agriculture/index.html>).

## 14. CONTACT

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<sup>2</sup> The administrative data sources used were the following: the IACS; the Bovine register (SANITEL); the Database of the Ministry of Agriculture on the payments made to farmers and other beneficiaries eligible for FEAGA or FEADER (MAFEA); and organic farming registers.

<sup>3</sup> Analysis was also performed at national aggregate level with data from the prior year. The SER assisted data validation by providing feedback on the aggregated data at national level to produce economic accounts of agriculture.

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

NUMBER OF HOLDINGS AND AREA, BY LEGAL STATUS		
	Holdings	Area (ha)
<b>Total</b>	<b>2 200</b>	<b>137 910</b>
Civil persons	2 150	137 130
An individual (sole holder holdings) <sup>2</sup>	2 060	121 550
Two or more individuals (group holdings)	90	15 580
Juridical persons (legal entities)	50	790

LAND TENURE		
	Holdings	UAA (ha)
<b>Total</b>	<b>2 200</b>	<b>131 110</b>
Legal ownership and owner-like possession (owned land)	2 090	53 480
Rented from others (land rented)	2 070	76 720
Other form of tenure (shared farming or other modes)	750	910

DISTRIBUTION OF UAA, BY LAND SIZE CLASSES		
	Holdings	UAA (ha)
<b>Total</b>	<b>2 200</b>	<b>131 110</b>
Holdings without UAA	20	
Holdings with UAA	2 180	131 110
Less than 2 ha	200	120
2–4,99 ha	160	570
5–9,99 ha	220	1 560
10–19,99 ha	170	2 450
20–29,99 ha	120	2 990
30–49,99 ha	240	9 850
50–99,99 ha	640	47 540
100 ha and over	440	66 030

LAND USE		
	Holdings	Area (ha)
<b>Total</b>	<b>2 200</b>	<b>137 910</b>
UAA	2 180	131 110
Arable land	1 570	62 000
Land temporarily fallow	150	140
Land under permanent crops	460	1 500
Permanent meadows and pastures	1 770	67 590
Kitchen garden	190	10
Other land	1 270	6 810
Wooded area	1 100	6 030
Unutilised agricultural land and other areas	700	780

MANAGERS BY SEX <sup>3</sup>		
	Number	UAA operated (ha)
<b>Total</b>	<b>2 200</b>	<b>131 110</b>
Male	1 850	116 080
Female	350	15 030

MEMBERS OF HOLDER'S HOUSEHOLD, BY SEX <sup>4</sup>	
	Number
<b>Total engaged in agricultural activities on the holding</b>	<b>1 980</b>
Male	1 030
Female	950

LABOUR FORCE OF THE HOLDING	
	Number
<b>Total</b>	<b>4 980</b>
Male	3 380
Female	1 600
Family labour force	4 090
Male	2 700
Female	1 390
Regular non-family labour force	880
Male	680
Female	210

MANAGERS BY SEX AND AGE <sup>3</sup>	
	Number
<b>Total</b>	<b>2 200</b>
Male	1 850
Female	350
Less than 35 years	160
Male	140
Female	20
35–44 years	430
Male	380
Female	60
45–54 years	710
Male	610
Female	110
55–64 years	600
Male	480
Female	120
65 years and over	300
Male	250
Female	50

LIVESTOCK		
	Holdings	Head
<b>Total holdings with livestock</b>	<b>1 720</b>	
Cattle	1 460	198 830
Sheep	220	9 080
Goats	100	5 080
Pigs/swine	140	83 770
Equines (Equidae)	530	4 600
Poultry (1 000 head)	n.a.	n.a.
Broilers	50	20
Laying hens	410	70
Others	90	n.a.
Other animals		
Rabbits (breeding females)	130	670
Other	1 240	
Insects		
Bees (hives)	30	540

<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.