

1. HISTORICAL OUTLINE

The Agricultural Census (AC) 2010 was the sixth AC to be conducted in Estonia. The previous ones were conducted in 1919, 1925, 1929, 1939 and 2001.

2. LEGAL BASIS AND ORGANIZATION

Legal framework

There is no specific national legislation for the agricultural censuses. The AC 2010 was conducted in accordance with:

- the Official Statistics Act and
- the Official Statistical Programme for 2010, Order No. 524 (03.12.2009), approved by the Government of the Republic of Estonia.

The Official Statistics Act states that in the collection and processing of data in the course of an AC, the producer of official statistics shall proceed from the requirements provided for in Regulation (EC) No. 1166/2008.

Institutional framework and international collaboration

The responsible agency for implementing the AC 2010 was Statistics Estonia; the responsible department was the Agricultural Statistics Department.

Census staff

The staff involved in census data collection included 132 interviewers, seven supervisors, two persons mainly for data processing and one mainly for methodological issues (covering temporary positions).

3. REFERENCE DATE AND PERIOD

Reference day: 1 September 2010, for inventory items, such as the number of livestock.

Reference periods were:

- from 1 September 2009 to 31 August 2010 for land use, the area of crops, labour force, etc.;
- the previous 12 months for irrigation, vocational training of the manager, etc.; and
- the last three years (2008, 2009, 2010), for rural development measures, etc.

4. ENUMERATION PERIOD

The AC was conducted from 1 September to 15 November 2010.

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

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

The **statistical unit** was the agricultural holding having at least 1 ha of UAA or the agricultural products of which were produced mainly for sale.

6. GEOGRAPHIC COVERAGE

The AC 2010 covered the entire country.

7. CUT-OFF THRESHOLD AND OTHER EXCLUSIONS

In case of holdings with less than 1 ha of UAA and no information on the products produced for sale, a physical threshold was used to determine potential holdings producing mainly for sale. The threshold was as follows: at least three cattle; ten pigs, sheep or goats; ten swarms of bees or 100 head of poultry; 0.5 ha of fruit and berry plantations; 0.3 ha of fresh vegetables; 0.2 ha of nursery; 0.01 ha of outdoor flowers, crops under glass or arable land seeds. See also section 5.

8. METHODOLOGY

Methodological modality for conducting the census

The classical approach was used in the AC 2010. Administrative registers were also used as a source of census items.

Frame

The target population includes all holdings that satisfy the definition of the statistical unit and that were registered in the Farm Register. The Farm Register is regularly updated on the basis of various administrative and statistical sources.¹

Complete and/or sample enumeration method(s)

The AC 2010 was conducted using complete enumeration.

¹ The Farm Register is regularly updated on the basis of several administrative and statistical sources, such as: (i) the Register of Agricultural Animals; (ii) the Register of Agricultural Support and Agricultural Parcels, together with annual land use data; (iii) the Organic Farming Register; (iv) the Statistics Estonia Business Register (based on the Commercial Register, the Non-Profit Institutions and Foundations Register, the Register of Taxable Persons, and the Register of State and Local Government Agencies); (v) the Population Register; and (vi) data from official agricultural statistics surveys.

Sample design (if sampling was used)

Not applicable.

Data collection method(s)

Two methods were used for data collection: CAWI and Computer-assisted Personal Interviewing (CAPI). The general helpdesk of Statistics Estonia was available during the census.

Questionnaire(s)

Two questionnaires were used for census data collection: one for natural persons and another for legal persons. The respondents could submit the census data through the electronic data transmission channel eSTAT.

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

9. USE OF TECHNOLOGY

New technology was used in the AC 2010 for: (i) data capture, using CAWI and CAPI; (ii) collection of data on organic farming and rural development support, directly from administrative registers; and (iii) the online dissemination of census results and user access to microdata.

10. DATA PROCESSING AND ARCHIVING

The census data were collected mainly through electronic questionnaires. Several types of controls were used, including controls to verify that the information was coherent and that the questionnaires were completed correctly and in full. There were also controls to identify inconsistencies compared to administrative data. Imputation was used on a very small scale and, generally, in case of unit nonresponse (holders that could not be contacted or in case of refusals).² =

11. CENSUS DATA QUALITY

Important efforts were made to ensure that the census questionnaires were carefully designed and accompanied by internal arithmetical and logical checks, to make sure that errors were caught and corrected during data collection. The use of electronic questionnaires, especially CAPI, also contributed to the quality of census data.

12. DATA DISSEMINATION

The preliminary data of the AC 2010 were published on 17 December 2010 in the form of a press release. The final results, together with metadata, were published on 15 December 2011 in the statistical database of Statistics Estonia.³ The census was published in September 2012 and is available on the Statistics Estonia webpage.⁴

Researchers can, under special contracts, use anonymized microdata for research purposes at the safe centre on Statistics Estonia's premises or using remote access. They can analyse the data, but the data must remain with Statistics Estonia until an employee has subjected the information to disclosure control.

13. DATA SOURCES

Eurostat. 2019a. Archive: Agricultural census in Estonia: In: *European Commission: Eurostat* [online]. Luxembourg. [Cited 23 August 2019]. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Agricultural_census_in_Estonia

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 Estonia. 2012. *Farm Structure Survey 2009/2010 and Survey on agricultural production methods 2009/2010, National Methodological Report*. Eurostat. (also available at http://ec.europa.eu/eurostat/documents/749240/749313/EE_NMR_FSS_2010.pdf/13d96e39-5973-4aa0-9382-2e1dfd0343a4).

14. CONTACT

Statistics Estonia
Enterprise and Agricultural Statistics Department
Address: Tatari 51, 10134 Tallinn, Estonia
Telephone: (+372) 6259300
E-mail: stat@stat.ee
Website: www.stat.ee

² Imputations were mostly done using the cold-deck imputation method. Land use data and data on livestock were imputed only on the basis of administrative data. In the case of other characteristics, data from the Farm Structure Survey 2007 were used; when those data were missing, the hot deck nearest-neighbour imputation method was used.

³ The database is available at : <http://www.stat.ee/ac2010>

⁴ https://www.stat.ee/publication-2012_agricultural-census-2010

ESTONIA – AGRICULTURAL CENSUS 2010 – MAIN RESULTS¹

NUMBER OF HOLDINGS AND AREA, BY LEGAL STATUS		
	Holdings	Area (ha)
Total	19 610	1 241 850
Civil persons	17 890	685 100
An individual (sole holder holdings) ²	17 890	685 100
Juridical persons (legal entities)	1 730	556 760

LAND TENURE		
	Holdings	UAA (ha)
Total	19 610	940 930
Legal ownership and owner-like possession (owned land)	17 620	377 980
Rented from others (land rented)	4 690	495 620
Other form of tenure (shared farming or other modes)	2 410	67 330

DISTRIBUTION OF UAA, BY LAND SIZE CLASSES		
	Holdings	UAA (ha)
Total	19 610	940 930
Holdings without UAA	150	
Holdings with UAA	19 460	940 930
Less than 2 ha	2 210	2 920
2–4,99 ha	4 250	14 100
5–9,99 ha	4 070	29 300
10–19,99 ha	3 470	48 690
20–29,99 ha	1 480	35 970
30–49,99 ha	1 170	45 050
50–99,99 ha	1 090	76 210
100 ha and over	1 720	688 710

LAND USE		
	Holdings	Area (ha)
Total	19 610	1 241 850
UAA	19 460	940 930
Arable land	12 950	640 040
Land temporarily fallow	2 910	42 160
Land under permanent crops	1 990	3 120
Permanent meadows and pastures	15 910	296 060
Kitchen garden	7 820	1 710
Other land	19 610	300 920
Wooded area	13 160	223 970
Unutilised agricultural land and other areas	19 610	76 960

MANAGERS BY SEX ³		
	Number	UAA operated (ha)
Total	19 610	940 930
Male	12 590	805 330
Female	7 020	135 600

MEMBERS OF HOLDER'S HOUSEHOLD, BY SEX ⁴		Number
Total engaged in agricultural activities on the holding		21 800
Male		10 500
Female		11 300

LABOUR FORCE OF THE HOLDING		Number
Total		52 340
Male		28 820
Female		23 520
Family labour force		39 420
Male		21 320
Female		18 100
Regular non-family labour force		12 920
Male		7 500
Female		5 420

MANAGERS BY SEX AND AGE ³		Number
Total		19 610
Male		12 590
Female		7 020
less than 35 years		1 350
Male		950
Female		400
35–44 years		3 450
Male		2 500
Female		950
45–54 years		4 660
Male		3 240
Female		1 430
55–64 years		4 590
Male		2 910
Female		1 690
65 years and over		5 560
Male		3 000
Female		2 560

LIVESTOCK		
	Holdings	Head
Total holdings with livestock	9 680	
Cattle	4 620	241 030
Sheep	1 950	87 140
Goats	590	3 670
Pigs/swine	1 550	388 500
Equines (Equidae)	990	6 740
Poultry (1 000 head)	n.a.	n.a.
Poultry – broilers	120	1 040
Laying hens	4 870	860
Others	780	40
Other animals		
Rabbits (breeding females)	550	3 380
Other	1 240	
Insects		
Bees (hives)	2 120	21 970

METHODS OF IRRIGATION		
	Holdings	Irrigable area (ha)
Total holdings with irrigable area	230	460
Holdings with irrigated area⁵		
Sprinkler	120	n.a.
Localized irrigation (drop irrigation)	100	n.a.

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

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

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

⁴ Data are presented without holders.

⁵ Excluding kitchen garden and area under glass.