



## LATVIA – AGRICULTURAL CENSUS 2020 – METADATA REVIEW

### 1. Historical outline

During the first Republic, six agricultural censuses were carried out in Latvia: in 1920, 1923, 1929, 1935, 1937 and 1939<sup>1</sup>. The first Agricultural Census (AC) of Latvia carried out in compliance with the requirements of EU legislation took place in 2001, the second in 2010, and the third, the metadata and data whereof are presented here, was carried out in 2020.

### 2. Legal basis and organization

#### *Legal framework*

The legal basis for the AC 2020 was provided by:

- Statistical Law, OP 2015/118.3 of 18 June 2015;
- Regulation of the Cabinet of Ministers No 812 of 20 December 2016 setting the rules for the approval of model questionnaires and completion, and submission thereof;
- Regulations of the Cabinet of Ministers No 813 of 20 December 2016 providing regulation for the Official Statistics Programme 2017–2019;
- Regulation of the Cabinet of Ministers No 763 of 11 December 2018 providing regulation for the Official Statistics Programme 2019–2021;
- Regulation of the Cabinet of Ministers No 782 of 30 November 2021 providing regulation for the Official Statistics Programme 2022–2024;
- Regulation (EU) 2018/1091 of the European Parliament and of the Council of 18 July 2018 on integrated farm statistics and repealing Regulations (EC) No 1166/2008 and (EU) No 1337/2011; and
- Commission Implementing Regulation (EU) 2018/1874 of 29 November 2018 on the data to be provided for 2020 under Regulation (EU) 2018/1091 of the European Parliament and of the Council on integrated farm statistics and repealing Regulations (EC) No 1166/2008 and (EU) No 1337/2011, as regards the list of variables and their description.

#### *Institutional framework and international collaboration*

The Agricultural Statistics Section of the Agricultural and Environmental Statistics Department operating under the supervision of the Central Statistical Bureau of Latvia (CSB) was responsible for conducting the AC 2020. The ad hoc group formed by the specialists from the Ministry of Agriculture, Ministry of Economics, Ministry of Environmental Protection and Regional Development, Rural Support Service (RSS), Agricultural Data Centre (ADC), State Plant Protection Service (SPPS), Institute of Agricultural Resources and Economics (IARE), Latvian Rural Advisory and Training Centre (LRATC), and non-governmental organisations (Farmers' Parliament, Latvian Agricultural Organisation Cooperation Council), supervised by the CSB, developed the AC programme and questionnaire.

#### *AC 2020 staff*

The AC 2020 involved 64 people from several CSB departments: nine from Agricultural and Environmental Statistics Department, one from Mathematical Support Division, three from Informatics Department, and 51 from Interviewer's Coordination Section, as well as outsourced interviewers from the Latvian Rural Advisory and Training Centre.

### 3. Reference date and period

**Reference day:** 1 July 2020 – livestock, animal housing and all other variables.

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<sup>1</sup> The data were not fully compiled because work was interrupted by the war. During the post-war years, when Latvia was part of the Soviet Union, separate censuses on the sown areas of agricultural crops, livestock, and of permanent crops were organized.

#### Reference periods:

- from 1 January to 31 December 2020 for land use and crops (area sown for the harvest of 2020);
- from 1 July 2019 to 1 July 2020, for labour force;
- from 1 January 2018 to 31 December 2020, for rural development measures.

#### 4. Enumeration period

The AC 2020 was conducted from 15 April to 30 December 2020. Due to the COVID-19 pandemic, face-to-face interviews were not conducted, therefore, the AC 2020 data were collected mainly through CATI and CAWI.

#### 5. Scope of the AC 2020 and definition of the statistical unit

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

The **statistical unit** – agricultural holding – was defined as a single unit, both technically and economically, having a single management and undertaking economic activities in agriculture and in accordance with the Regulation (EC) No 1893/2006 belonging to groups A.01.1, A.01.2, A.01.3, A.01.4, A.01.5 or to the ‘maintenance of agricultural land in good agricultural and environmental condition’ of group A.01.6 within the economic territory of the Union, either as its primary or secondary activity, as it is stated in the Regulation (EU) No 2018/1091 of the European Parliament and of the Council on integrated agricultural statistics. Regarding activities of class A.01.49, only the activities ‘Raising and breeding of semi-domesticated or other live animals’ (except for raising of insects) and ‘Bee-keeping and production of honey and beeswax’ were included.

##### **Community-level data**

There were no community-level data collected along with the census.

#### 6. AC 2020 coverage

##### **Geographic coverage**

The AC 2020 covered the entire country.

##### **Cut-off threshold and other exclusions**

The AC 2020 used following threshold: (i) five ha of UAA; (ii) two ha of arable land; (iii) 0.5 ha of potatoes, vegetables, or strawberry plantations; (iv) 0.2 ha of medicinal plants, culinary plants, herbs, flowers and ornamental plants, nurseries; (v) 0.3 ha of fruit trees or berries; (vi) 0.01 ha of greenhouses or cultivated mushrooms; or (vi) 1.7 livestock units. The animal housing and manure management module covered the subset of the population of agricultural holdings defined before with at least one cattle, pig, sheep, goat, or poultry. Agricultural holdings with UAA less than one ha and standard output (SO) less than EUR 70 were not covered.

#### 7. Methodology

##### **Methodological modality for conducting the AC 2020**

The AC 2020 used the classical approach combined with the use of administrative registers<sup>2</sup>. The AC was composed of a core module and three thematic modules on labour force and other gainful activities, rural development, and animal housing and manure management. All census data related to the thematic module on rural development were collected directly from administrative registers, which were also used partially for the core module and the animal housing and manure management module.

##### **Relation to other censuses**

Data for the 2021 Population and Housing Census (PHC) in Latvia was provided from administrative registers only. To obtain additional information on economic characteristics (Commission Implementing Regulation (EU) 2017/543) such as employed persons, their occupation and industry, a methodology was

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<sup>2</sup> In 2001 all necessary information was collected by conducting a survey, in 2010 administrative sources ensured 18 % of the needed indicators, whereas in 2020 those were already 64 %.

developed that included using additional items from AC 2020 (owners of sole-holder holdings and their spouses, their working time in agriculture, and typology code of the agricultural exploitation).

### ***Frames***

The AC 2020 used a frame based on the CSB Statistical Farm Register (SFR). The SFR is a list frame updated on a regular basis.

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

The AC 2020 used a combination of complete and sample enumeration. The core and the three thematic modules were collected using complete enumeration, while core data on frame extension, holdings below thresholds, were collected using sample enumeration.

### ***Sample design***

In the AC 2020, the sample for frame extension was selected using a one-stage stratified random sample. The stratification variables were the NUTS 3 regions, and size of the holdings defined by UAA and LSU groups. The size of the sample was decided in accordance with the precision requirements provided in the Regulation (EU) 2018/1091 and financial and organizational possibilities. The sample size of 2 000 holdings was allocated between strata using Neyman allocation, of which 1 149 were eligible holdings.

### ***Data collection methods***

In the AC 2020, data was collected through CAWI and CATI method. Respondents were also able to send completed questionnaires by post or e-mail when other methods were not possible (e.g., unknown telephone number, or no means to connect to the CAWI data entry system). CSB and LRATC interviewers conducted telephone interviews. The administrative sources used to acquire AC 2020 information included: (i) RSS Integrated Administration and Control System (IACS) EU direct payment database information on crop areas; (ii) RSS IACS information on projects that have received payments covered by the support measures; (iii) ADC Animal Register information on number of livestock, including organic; and (iv) ADC Organic Farming Information System database on certified organic croplands and croplands under conversion.

### ***Questionnaire(s) and items covered***

There was one questionnaire in the AC 2020. It covered 19 out of 23 essential items recommended in the WCA 2020<sup>3</sup>.

## **8. Use of technology**

CAWI and CATI were used for field data collection. Census data were collected directly from administrative registers to reduce the response burden. Census results were disseminated online.

## **9. Data processing**

CAWI and CATI method ensured direct data capture using the Integrated Statistical Data Processing and Management System, Computer-Assisted Statistical Information System (ISDAVS CASIS). For questionnaires received by post or email, manual data entry was carried out by interviewers using ISDAVS CASIS. Data control was carried out in all data collection and data processing levels. Mathematical and logical controls were developed in compliance with the requirements of the "Integrated farm statistics manual — 2020 edition". To obtain more precise information and facilitate further data processing, they were supplemented with other necessary controls. With respect to validations failing during the data input process, an error notification indicated the place of the error and the correct value (if possible). The data input application ISDAVS CASIS incorporated 167 controls. When data were sent to the CSB server, the personnel engaged carried out deeper mathematical and logical controls at the level of holdings. When necessary, the information was revised by contacting the interviewer or farm holder/manager. Data comparison was based on the administrative data sources – Agricultural Data Centre (Housing Facilities Infrastructure and Manure Storage Register on housing facilities and manure management) and SFR. The primary source used to specify the information was

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<sup>3</sup> The following essential items were not covered: (i) 0407 Number of permanent crop trees in scattered plantings (for each tree crop); (ii) 0501 Type of livestock system; (iii) 0601 Use of agricultural pesticides; and (iv) 0801 Household size by sex and age groups. The item 0203 Area of holding according to land tenure types was covered only for the UAA.

the respondent – CSB employees called the respondents and asked them to give the precise incorrect or missing information. SQL and MS Access for individual data were used for data processing, validation and tabulation purposes. A standalone validation tool, developed by Eurostat, was used for data set validation purposes. To obtain missing information in incomplete questionnaires, imputation was carried out using existing data for the same unit from SFR, administrative data sources and other agricultural surveys. The ADC Animal Housing Infrastructure Register information on manure management, manure storage facilities, as well as animal housing and feeding systems on farm was used for quality check and imputation in case of non-response.

## 10. Quality assurance

CSB has introduced an internal Quality Management System (QMS). The system is aimed at providing high user satisfaction and ensuring compliance with regulatory provisions. Based on the structure of Generic Statistical Business Process Model (GSBPM), QMS defines and at the level of procedures describes processes of statistical production as well as sets the persons responsible for the monitoring of processes at all stages of the statistical production considering the EU and international quality standards. QMS defines the sequence how processes are implemented (i.e., activities to be performed, including verifications of processes and statistics, sequence, and implementation requirements thereof, as well as persons responsible for the implementation), procedures used in the evaluation of processes and statistics, as well as any improvements needed. Since 2018, QMS of the CSB has been certified by the standard ISO 9001:2015 *Quality Management Systems. Requirements* (scope of certification: development, production, and dissemination of official statistics). Quality of statistics is assessed in accordance with the existing requirements of external and internal regulatory enactments and in accordance with the established quality criteria. Regulation (EC) no 223/2009 of the European Parliament and of the Council on European statistics states that European Statistics European statistics shall be developed, produced, and disseminated on the basis of uniform standards and of harmonised methods. In this respect, the following quality criteria shall apply: relevance, accuracy, timeliness, punctuality, accessibility, clarity, comparability and coherence.

## 11. Data and metadata archiving

Metadata was published on 15 November 2021 and was updated on 28 June 2022, using SIMS v2.0 of the European Statistical Service (ESS). It is available at <https://stat.gov.lv/en/metadata/10234-agricultural-census-2020/sims2>. Microdata was disseminated using EU methodology and is available via remote access without direct identifiers to avoid disclosure. AC 2020 results are available online at [https://stat.gov.lv/en/search?Themes="2429"](https://stat.gov.lv/en/search?Themes=).

## 12. Data reconciliation

There was no reconciliation process of AC 2020 data.

## 13. Dissemination of the AC 2020 results and microdata

Preliminary AC 2020 results were disseminated through four news releases in 2021 and 2022. In June 2022, the final report was published online in Latvian and English and is available at [https://admin.stat.gov.lv/system/files/publication/2022-06/Nr\\_16\\_2020\\_gada\\_Lauksaimniecibas\\_skaitisanas\\_rezultati\\_%282022\\_00%29\\_LV\\_EN.pdf](https://admin.stat.gov.lv/system/files/publication/2022-06/Nr_16_2020_gada_Lauksaimniecibas_skaitisanas_rezultati_%282022_00%29_LV_EN.pdf). Results from the AC 2001, 2010 and 2020 (at national, regional, municipality level) are available in the online database (<https://stat.gov.lv/en/statistics-themes/business-sectors/agriculture/other/2975-agricultural-census-2001-2010-2020>). Online data user seminars on provisional and final results were carried out in December 2021 and March 2022, respectively. Anonymized microdata for research purposes is available for agricultural science and educational institutions upon request.

## 14. Data sources

**Eurostat.** 2022. *Integrated Farm Statistics - National quality reports 2020: Latvia* [online]. Luxembourg. [Cited 21 October 2022]. [https://ec.europa.eu/eurostat/cache/metadata/en/ef\\_simsif\\_lv.htm](https://ec.europa.eu/eurostat/cache/metadata/en/ef_simsif_lv.htm)

**Central Statistical Bureau (CSB).** 2022. *Agricultural Census 2020*. In: CSB [online]. Riga, Latvia. [Cited 21 October 2022]. <https://stat.gov.lv/en/statistics-themes/business-sectors/agriculture/10257-agricultural-census-2020?themeCode=LA>.

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