

CROATIA – AGRICULTURAL CENSUS 2020 – METADATA REVIEW

1. Historical outline

The first agricultural census (AC) since independence was conducted in Croatia in 2003. Previously, as part of former Yugoslavia, censuses of agriculture were undertaken in 1931, 1951, 1960, and 1969. In 1981 and 1991, the enumeration of agricultural holdings was conducted in the framework of the Population Census. Since 2007, a Farm Structure Survey (FSS) has been conducted every three years (2007, 2010, 2013 and 2016). This metadata review refers to the most recent AC conducted in Croatia in 2020.

2. Legal basis and organization

Legal framework

The following legal basis for the AC 2020 was applied:

- Official Statistics Act (Official Gazette, No. 25/2020);
- Act on Agricultural Census 2020 (Official Gazette, No. 63/2019);
- Regulation amending the Act on Agricultural Census 2020 (Official Gazette, No. 64/2020);
- Ordinance on the methodology of the Agricultural Census 2020 (Official Gazette, No. 108/2019);
- Regulation (EU) 2018/1091 of the European Parliament and of the Council of 18 July 2018 regarding integrated statistics on agricultural holdings, that regulates and details the information that the countries of the European Union must provide; 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, Production and Structural Statistics Department under the Spatial statistics Directorate of the Croatian Bureau of Statistics (CBS) was the responsible body for conducting the AC 2020. The working group for the coordination of activities of AC 2020 was established in the CBS. The organisation of the AC 2020 at the regional level consisted of two main bodies: County Enumeration Committee, made up of CBS staff and representatives from county state institutions, and the Regional Enumeration Centres. The AC 2020 was funded by the state budget of the Republic of Croatia and grants from the EU.

Census staff

The AC 2020 fieldwork for the private family farms sector involved 1 678 enumerators, 242 supervisors, 138 enumeration centres staff, and 21 census commission staff. CBS outsourced IT services for web-based software for survey, software development for CAPI, data processing, coding and tabulation as well as an external IT expert for the preparation of data set to be sent to Eurostat. CBS outsourced advertising, visual identity and visibility services. CBS staff at central and regional offices (approximately 20) and IT staff (approximately 3) participated in the census operation for business entities.

3. Reference date and period

Reference day: 1 June 2020, for, crops, livestock and animal housing.

Reference periods:

- from 2 June 2019 to 1 June 2020, for land use, irrigation and soil management practices, labour force, other gainful activities, animal housing facilities, manure management, machinery, etc; and
- from 1 January 2018 to 31 December 2020, for rural development measures.

4. Enumeration period

The census enumeration was conducted in two phases. In the first phase, from 1 June to 30 June 2020, data was collected from 4 423 agricultural enterprises (business entities) and parts thereof conducting agricultural activities. In the last phase, from 14 September to 14 October 2020, data was collected from private family farms. The CBS planned to conduct the census in June 2020. Due to the national situation related to the COVID-19 and an earthquake in Zagreb, the data collection was postponed.

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, that has a single management and that undertakes economic activities in agriculture in accordance with 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. Census coverage

Geographic coverage

The AC 2020 covered the entire country

Cut-off threshold and other exclusions

The following thresholds were applied for the agricultural holdings in the AC 2020: (i) 0.4 ha of UAA; (ii) 0.2 ha of aromatic, medicinal and culinary plants - outdoor, flowers and ornamental plants (excluding nurseries) - outdoor, seeds and seedlings - outdoor, nurseries – outdoor; (iii) 0.1 ha of fruits, berries, nuts and citrus fruits (excluding grapes and strawberries), vineyards or olives – outdoor; (iv) any area of fresh vegetables (including melons) and strawberries – outdoor, fresh vegetables (including melons) and strawberries - under glass or high accessible cover, flowers and ornamental plants - under glass or high accessible cover, or cultivated mushrooms; (v) 0.5 livestock units (LSUs¹); or (vi) one beehive.

The AC did not include holdings engaged in processing of agricultural products, forestry, and fishing. Also, it did not include areas under vegetable gardens for own needs with less than 100 m².

7. Methodology

Methodological modality for conducting the census

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. However, the classical approach (one-off complete enumeration) combined with the use of administrative registers was used in the AC 2020. Some census data for the core module and the frame extension of this module, and all census data regarding the rural development module were collected directly from administrative registers.

Relation to other censuses

No relationship with other censuses.

¹ Livestock unit was defined in the Act on Agricultural Census 2020, Article 5, point 9) as determined by the provision of Article 2, point d) of Regulation (EU) 2018/1091

Frames

For the AC 2020 the census frame was provided by the Statistical Register of Agricultural Holdings of the CBS, a list frame updated annually. The frame includes family farms registered in the Register of Farmers in the Agency for Payments in Agriculture, Fisheries and Rural Development; and the households that declared in the PHC 2011 were engaged in agricultural activities. The frame includes holdings that have more than 0.40 ha of agricultural land and more than 0.5 livestock units. A total of 173 776 private family farms and 4 400 business entities and parts thereof were selected in 2020, covering 98 percent of the UAA and 98 percent of livestock units.

Complete or/and sample enumeration methods

The AC 2020 was conducted using complete enumeration.

Sample design

No sampling was used.

Data collection methods

In the AC 2020, data was collected using the CAWI method in business entities and parts thereof. Data from private family farms was collected using the CAPI method. Also, CATI and post (mail-our/mail-back) methods were used to collect data for business entities as well as private family farms. The following administrative sources were used to acquire information on the core and rural development modules: rural development measures, Integrated Administration and Control System (IACS), organic farming register, and cadastre. Data collection methods were not changed due to COVID-19.

Questionnaire(s) and items covered

Two versions of the questionnaire were prepared: one for private family farms and another for business entities. The two questionnaires were slightly different regarding the chapter related to labour force. The census questionnaire covered 19 out of 23 essential items recommended in the WCA 2020². All items related to rural development module were collected from administrative sources.

8. Use of technology

CAWI, CAPI and CATI methods were used for field data collection. Some census data were collected directly from administrative registers. Census results were disseminated and are accessible online.

9. Data processing

Direct data capture was ensured by the CAWI, CAPI and CATI method. Interviewers, supervisors, and staff from local and central department carried out data validation through completeness and range checks, and comparisons with previous rounds of the data collection. Validation rules were used in the questionnaires and within special data processing tool. Additional validations were done through special queries. Imputation was used to address item non-response using information from available administrative sources, and to minimize processing errors using previous data for the same unit. The software used for processing, analysis and tabulations was SAS, Visual Basic.NET, and SQL.

10. Quality assurance

The CBS applies the model of Total Quality Management, which also contains the Code of Practice of European Statistics, to establish a comprehensive system of quality. This model offers a possibility of continuous improvement for each business process. It focuses not only on products and services, but also to users and their satisfaction, the active participation of employees, long-term business success and social benefit. The communication is recognized as a key element of all statistical processes that affect the business success. Files for import were prepared into the Generic Statistical Business Process Model (GSBPM) application from 2019 onwards. For the AC 2020, the following actions were used to minimize non-sampling errors: update of register to minimize under-coverage and contact errors; pre-testing questionnaire, pre-filled questions, explanatory notes or handbooks for enumerators

² The following essential items were not covered: (i) 0107 Main purpose of production of the holding; (ii) 0407 Number of permanent crop trees in scattered plantings (for each tree crop); (iii) 0601 Use of agricultural pesticides; and (iv) 0801 Household size by sex and age groups.

or respondents, on-line FAQ or hot-line support for enumerators or respondents, and training of enumerators to minimize measurement errors; follow-up interviews, reminders, and imputation to minimise unit and item non-response; numeric-logical controls to minimise processing errors.

11. Data and metadata archiving

Microdata was archived according to the internal rules of the CBS and disseminated using EU methodology and micro-aggregation for data perturbation. Database with AC 2020 data is available on the website of CBS: at https://web.dzs.hr/PXWeb/Menu.aspx?px_type=PX&px_db=Popis+poljoprivrede+2020&px_language=en.

12. Data reconciliation

There was no reconciliation process of AC 2020 data.

13. Dissemination of census results and microdata

Provisional data was published on 30 November 2020. Results are not published through an online or printed report, only through an online database available at https://web.dzs.hr/PXWeb/Menu.aspx?px_language=hr&px_type=PX&px_db=Popis%20poljoprivrede%202020. Also, a PowerPoint presentation and a press released were published on 31 December 2021 presenting the final results and are available on the AC webpage (<http://www.popispoljoprivrede.hr/>). Regarding microdata dissemination, the Ordinance on Conditions and Terms of Using Confidential Data for Scientific Purposes (Official Gazette, No. 137/13) provides the conditions, modalities, and measures for protecting confidential information. Each use of confidential information is regulated through a specific contract with CBS, which strictly regulates this issue.

14. Data sources

Croatian Bureau of Statistics (CBS). 2021. Agricultural Census 2020. In: CBS [online]. Zagreb, Croatia. [Cited 15 September 2021]. <http://www.popispoljoprivrede.hr/en/index.html>

Eurostat. 2022. *Integrated Farm Statistics - National quality reports 2020: Croatia* [online]. Luxembourg. [Cited 16 November 2022]. https://ec.europa.eu/eurostat/cache/metadata/en/ef_simsif_hr.htm

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