



BULGARIA–AGRICULTURAL CENSUS 2020 – METADATA REVIEW

1. Historical outline

The first census of land ownership in Bulgaria was carried out in 1897. Subsequent agricultural censuses (ACs) were held in 1934, 1946 (unpublished results), 2003, 2010 and 2020. The AC 2020, to which the metadata review and data presented here refer, was the third census conducted with EU legislation and the second after Bulgaria acceded to the EU.

2. Legal basis and organization

Legal framework

The legal basis for the AC 2020 included:

- the law on 2020 Census of Agricultural Holdings in the Republic of Bulgaria, Promulgated, State Gazette No. 22/15.March.2019; and
- Regulation (EU) 2018/1091 of the European Parliament and of the Council of 18 July 2018 on integrated statistics on agricultural holdings 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 statistics on agricultural holdings 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 AC 2020 was coordinated and managed by the Ministry of Agriculture, Food and Forestry (MAFF) through the Agrostatistics Department, as the official body of statistics in cooperation with the National Statistical Institute (NSI). The 28 Regional Directorates of Agriculture (RDA) were responsible for undertaking census operations in their respective administrations.

Census staff

The census staff included 90 experts in agrostatistics from RDA and 15 from the MAFF. Additional staff was also involved in various stages of the census, as the census was accompanied by many administrative activities. Experts from the NSI, as well as experts responsible for the information systems of the administrative data sources, were also involved in the census activities. The local government actively participated in the census by supporting the activities to update holding lists. Regarding data collection activities, 1437 enumerators, 224 supervisors, and 272 IT and data processing specialists participated through civil contracts. Software development and technical assistance related to data entry, validation and transmission to Eurostat were outsourced.

3. Reference date and period

Reference day: 31 August 2020 for livestock and animal housing, and for all other variables.

Reference periods:

- from 1 September 2019 to 31 August 2020 for characteristics related to land, irrigation and soil management practices, labour force, manure management, machinery and equipment; and
- from 1 January 2018 to 31 December 2020 for rural development variables.

4. Enumeration period

The AC 2020 data collection started on 1 September 2020 and ended on 18 December 2020. The COVID-19 pandemic caused a partial interruption in data collection and the sending of questionnaires due to cases of illness of surveyors, controllers, and experts. The deadlines were met but redistributing the work and increasing the workload of the enumerators.

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, 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

No community survey was conducted.

6. Census coverage

Geographic coverage

The AC 2020 covered the entire country.

Cut-off threshold and other exclusions

The following national thresholds for agricultural holdings were applied in the AC 2020: (i) 0.5 ha of utilized agricultural area (UAA); (ii) 0.5 ha of permanently grassland; (iii) 0.1 ha of potatoes (including seed potatoes), vineyards, fresh vegetables (including melons) and strawberries, pome fruits, stone fruits, fruits from subtropical and tropical climate zones, berries (excluding strawberries), nuts, grapes, other permanent crops including for human consumption, tobacco, hops, flowers and ornamental plants (excluding nurseries), seeds and seedlings, nurseries, or aromatic, medicinal and culinary plants, all outdoor; (iv) 0.3 ha of outdoor pome fruits, stone fruits, fruits from subtropical and tropical climate zones, berries (excluding strawberries), nuts, and other permanent crops including for human consumption, or arable land; (v) 0.2 ha total outdoor of aromatic, medicinal and culinary plants, flowers and ornamental plants (excluding nurseries), seeds and seedlings, and nurseries; (vi) 0.01 ha of greenhouse, or cultivated mushrooms; or (vii) one cow, breeding sow live weight 50 kg or over, male bovine 2 years old or over, ostrich, other livestock, deer, or fur animal; (viii) two head of bovine less than 1 year old, male bovine and heifers 1 to less than 2 years old, and male bovine and heifers 2 years old and over, live horses, asses, mules and hinnies, or goats breeding females; (ix) five head of piglets live weight under 20 kg and other pigs, or sheep breeding females; (x) ten bees (hives) or rabbits of domestic species breeding females; (xi) 30 turkeys, ducks, geese, guinea fowls, pheasants, pigeons, and other poultry; (xii) 50 laying hens; (xiii) 100 broilers; (xiv) 400 quails; or (xv) 1.7 livestock units.

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) was used in the AC 2020, even for the thematic modules. All census data regarding rural development were collected directly from administrative registers, which were also used partially for the core module, and the frame extension of this module.

Relation to other censuses

No relationship with other censuses.

Frame

The type of frame used in the census was a list of agricultural holdings from the previous census, farms from annual statistical surveys after 2010, and farms for which data was obtained from administrative sources. The preliminary list was checked and cleared by experts from the RDA, the municipal agricultural service, and the regional directorates for food safety with assistance of the local government.

Complete and/or sample enumeration methods

The AC 2020 was conducted using complete enumeration.

Sample design

Not applicable.

Data collection method(s)

The AC 2020 data was collected in two phases:

- Phase 1: from 1 to 18 September 2020 using CAWI method for all holdings; and
- Phase 2: data collection by face-to-face interview using CAPI/PAPI methods was carried out from 19 September to 18 December 2020 in farms with non-response in phase 1.

The characteristics concerning rural development support were obtained using an administrative data source, the State Fund Agriculture – Paying Agency. Other administrative registers used to collect data were: Integrated Administration and Control System (IACS), bovine register, ovine register, caprine register, and the organic farming register.

Questionnaire(s) and items covered

One questionnaire was used for the AC 2020. The questionnaire covered 20 out of 23 essential items¹ recommended in the WCA 2020².

Use of technology

The CAWI and CAPI methods were used for data collection. A software application for the AC 2020 was developed as an upgrade of the existing Agrostistics Information System (ISAS) for collection, processing, and validation of data from agricultural holdings. Geolocation of holdings was carried out through an IACS GIS application, where access was provided to a Digital Orthophoto Map and IACS spatial data for the requested area, by plots. Census data were collected directly from administrative registers to reduce the response burden. Census results were disseminated online.

8. Data processing

Direct data capture was ensured by the CAWI and CAPI method. For paper questionnaires, manual data entry in the ISAS was used. The IT system contains data entry validations. Before ISAS data entry, data collected with PAPI methods was checked. Data was validated by interviewers, supervisors, and staff from local and central departments, using data format checks, completeness checks, range checks, relational checks, comparisons with previous rounds of the data collection, and comparisons with other domains in agricultural statistics. The tools for data validation comprised comparison of the data, control for logical connection in the information system (including validations from the manual), and the Eurostat data testing system. Data was compiled using an algorithm created for processing the collected data in the information system for bringing them into a form suitable for transmission to Eurostat (microdata file). Some of the data comparisons and summary tables were prepared using the ISAS, a reference module that uses the Microsoft SQL Server Reporting Services tool, and Excel.

9. Quality assurance

The NSI has a quality management system that follows the guidelines established at https://www.nsi.bg/sites/default/files/files/pages/Quality/1.4.%20GUIDELINES%20NSS_BG.pdf and https://www.nsi.bg/sites/default/files/files/pages/Quality/1.5.%20QUALITY_NSI_%D0%A7%D0%B0%D1%81%D1%82%20II_NEW_BG_corr.pdf, in accordance with the European Statistical Code Practices. The quality assurance and assessment include multi-level data control, training courses, use of best practices, quality guidelines, benchmarking, and compliance monitoring. A pilot census was conducted during the preparatory stage of the census with the main objective of testing census methodology. A Post-enumeration surveys (PES) was carried out on a sample of agricultural holdings after the completion of the data collection to be aware of the quality and limitations of the data produced.

10. Data and metadata archiving

The data and the national metadata were published and are available on the website of the MAFF (<https://www.mzh.government.bg/bg/statistika-i-analizi/prebroyavane-na-zemedelskite-stopanstva->

¹ The following essential items were not covered: (i) 0302 Area of land actually irrigated: fully controlled and partially controlled irrigation; (ii) 0407 Number of permanent crop trees in scattered plantings (for each tree crop); and (iii) 0801 Household size by sex and age groups.

² One essential item was collected adapted to the national statistical practice: instead of the item “Area of temporary crops harvested” recommended in the WCA 2020, the AC 2020 collected the data on sown areas (for each temporary crop type).

[prez-2020-g/](#)) and on the website of the Agrostistics Department (<https://www.agrostat.bg/ISASPublic/Structure>). There are no plans to publish microdata.

11. Data reconciliation

There was no reconciliation process of AC 2020 data.

12. Dissemination of census results and microdata

The AC 2020 preliminary results were published in April 2021 on the website of the MAFF. The final results were published in June 2022 on the website of the MAFF and are available at <https://www.mzh.government.bg/bg/statistika-i-analizi/prebroyavane-na-zemedelskite-stopanstva-prez-2020-g/>. The lowest level for which data was published was municipality (LAU2). A bilingual hard copy book in Bulgarian and English was published for the results of the agricultural census. The census data are published in the statistical yearbook of NSI. Regarding microdata, there are no plans to publish it.

13. Data sources

Eurostat. 2022. *Integrated Farm Statistics - National quality reports 2020: Bulgaria* [online]. Luxembourg. [Cited 16 August 2023]. https://ec.europa.eu/eurostat/cache/metadata/en/ef_simsif_bg.htm

Ministry of Agriculture, Food and Forestry (MZH). 2021. *Census of agricultural holdings in 2020*. In: *MZH* [online]. Bulgaria. [Cited 16 August 2023]. <https://www.mzh.government.bg/bg/statistika-i-analizi/prebroyavane-na-zemedelskite-stopanstva-prez-2020-g/>.

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