REPUBLIC OF CROATIA
CROATIAN BUREAU OF STATISTICS

150 YEARS OF CROATIAN STATISTICS

# QUALITY REPORT FOR STATISTICAL SURVEY
## Farm Structure Survey – situation as on 1 June: legal entities, crafts and private family farms (PO-22/STR) for 2023

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## 0. Basic information

- Purpose, goal, and subject of the survey

  The objective of the survey is to obtain the most precise data on the state of Croatian agriculture considering the importance of this sector for the economy as a whole. Data obtained will serve as an indicator which will enable the government and the local authorities to define more precisely the problems of this sector and therefore plan and execute appropriate decisions and provide the appropriate support for its development.

  The objective of the survey is to collect the following data:

  - on the labor force in the farm
  - on the manager responsible for the farm
  - on the method of land utilization (arable land, permanent crops, kitchen gardens, pastures and meadows)
  - on the number of livestock
  - on ecological farming
  - on irrigation
  - on soil management practices
  - on the expected yield of important crops and fruit
  - on machinery and equipment
  - on rural development support measures

- Reference period

  Calendar year

- Legal acts and other agreements

  Decision on the National Classification of Activities 2007 - NKD 2007 ("Official Gazette", no. 58/07 and 72/07), Rulebook on Amendments to the Rulebook on the Classification of Business Entities according to the National Classification of Activities 2007 - NKD in 2007 ("Official Gazette", no. 35/18), Classification of products by activities of the Republic of Croatia 2015 - KPD 2015 ("Official Gazette", no. 157/14), National Classification of Statistical Regions 2021 (HR_NUTS 2021), ("Official Gazette", no. 125/19), Regulation (EU) no. 2018/1091 of the European Parliament and the Council of July 18, 2018 on integrated statistics at the level of agricultural holdings and repealing Regulation (EC) no. 1166/2008 and (EU) no. 1337/2011 Text of EEA relevance (OJ L 200, 7.8.2018)

  Commission Implementing Regulation (EU) 2015/220 of February 3, 2015 on establishing rules for the application of Council Regulation (EC) no. 1217/2009 on the establishment of a system for collecting accounting data on income and business activities of agricultural holdings in the European Union Text relevant to the EEA (OJ L 46, 19.2.2015).

  Commission Implementing Regulation (EU) 2021/2286 of 16 December 2021 on the data to be submitted for the reference year 2023 based on Regulation (EU) 2018/1091 of the European Parliament and of the Council on integrated statistics at the level of agricultural holdings with regard to the list of variables and their descriptions and on repealing Commission Regulation (EC) no. 1200/2009 Text of EEA relevance (OJ L 458, 22.12.2021).

  Regulation (EU) 2021/2269 of the European Parliament and of the Council of 15 December 2021 amending Regulation (EU) 2018/1091 as regards the Union contribution to integrated statistics at the level of agricultural holdings in accordance with Council Regulation (EU, Euratom) 2020/2093 establishing the multiannual financial framework for the period 2021 - 2027. Text relevant to the EEA (OJ L 457, 21.12.2021)

Regulation (EC) no. 1893/2006 of the European Parliament and the Council of December 20, 2006 on establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) no. 3037/90 as well as certain EC regulations on special statistical areas (OJ L 393, 30.12.2006)

Commission Regulation (EC) no. 973/2007 of August 20, 2007 on the amendment of certain EC regulations on specific statistical areas implementing the NACE Revision 2 statistical classification of economic activities (OJ L 216, August 21, 2007)

Regulation (EC) no. 451/2008 of the European Parliament and the Council of April 23, 2008 on the establishment of a new statistical classification of products by activity (KPD) and on the repeal of Council Regulation (EEC) no. 3696/93 Text of EEA relevance (OJ L 145, 4.6.2008)

Commission Regulation (EU) no. 1209/2014 of October 29, 2014 amending Regulation (EC) no. 451/2008 of the European Parliament and the Council on the establishment of a new statistical classification of products by activity (KPD) and on the repeal of Council Regulation (EEC) no. 3696/93 Text relevant to the EEA (OJ L 336, 22.11.2014) Integrated farm statistics manual (2023 edition)

- Classification system

  Data are arranged in tables using many classifications. Please find below information on most classifications.

  The classifications of variables are available in Annex III of Regulation (EU) 2018/1091 and in Commission Implementing Regulation (EU) 2021/2286.

  The farm typology means a uniform classification of the holdings based on their type of farming and their economic size. Both are determined on the basis of the standard gross margin (SGM) (until 2007) or standard output (SO) (from 2010 onward) which is calculated for each crop and animal. The farm type is determined by the relative contribution of the different productions to the total standard gross margin or the standard output of the holding.

  The territorial classification uses the NUTS classification to break down the regional data. The regional data is available at NUTS level 2.

- Statistical concepts and definitions

  The list of core variables is set in Annex III of Regulation (EU) 2018/1091.

  The descriptions of the core variables as well as the lists and descriptions of the variables for the modules collected in 2023 are set in Commission Implementing Regulation (EU) 2021/2286.

  The following groups of variables are collected in 2023:

  - for core: location of the holding, legal personality of the holding, manager, type of tenure of the utilised agricultural area, variables of land, organic farming, irrigation on cultivated outdoor area, under glass, variables of livestock, organic production methods applied to animal production;

  - for the module "Labour force and other gainful activities": farm management, family labour force, non-family labour force, other gainful activities directly and not directly related to the agricultural holding;

  - for the module "Rural development": support received by agricultural holdings through various rural development measures;

- for the module “Irrigation”: availability of irrigation, irrigation methods, sources of irrigation water, technical parameters of the irrigation equipment, crops irrigated during a 12 months period;

- for the module “Soil management practices”: tillage methods, soil cover on arable land, crop rotation on arable land, ecological focus area;

- for the module “Machinery and equipment”: internet facilities, basic machinery, use of precision farming, machinery for livestock management, storage for agricultural products, equipment used for production of renewable energy on agricultural holdings;

- for the module “Orchards”: apples area, pears area, peaches area, nectarines area, apricots area, oranges area, small citrus fruit area, lemons area, olives area, grapes for table use area, grapes for raisins area, each one by age of plantation and density of trees.

- Statistical units

The agricultural holding is 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: Growing of non-perennial crops

- A.01.2: Growing of perennial crops

- A.01.3: Plant propagation

- A.01.4: Animal production

- A.01.5: Mixed farming

- 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.

Regarding activities of class A.01.48, only the activities “Raising and breeding of semi-domesticated or other live animals; (with the exception of raising of insects) and “Bee-keeping and production of honey and beeswax” are included.

- Statistical population

Thresholds of agricultural holdings

The basic group includes all agricultural holdings that have at least 40 ares of used agricultural area (UFA) and 0.5 livestock units, or: - less than 0.40 hectares of used agricultural area (UFA), but have:
- at least 0,10 hectare of orchard, vineyard and/or olive grove
- nursery area >0
- area under vegetables, flowers and ornamental plants or mushrooms intended for the market
- bee colonies

# 1. Relevance

## 1.1 Data users

Agricultural Institutes, Faculty of Agriculture, Ministry of Agriculture, the Croatian Government.

### 1.1.1 User needs

The users who create economic policy and resources allocation of the state budget.

#### 1.1.2 User satisfaction

The first user satisfaction survey of the Croatian Bureau of Statistics was conducted in 2013, the second one in 2015, and the last one at the end of 2022. The survey results can be checked on the website of the Croatian Bureau of Statistics https://dzs.gov.hr/highlighted-themes/quality/user-satisfactionsurveys/686

### 1.2. Completeness

Information on not collected, not-significant and not-existent variables is available on Eurostat's website, at the link: Additional data - Eurostat (europa.eu). https://ec.europa.eu/eurostat/web/agriculture/database/additional-data

#### 1.2.1 Data completeness rate

The data completeness rate is: 100%

## 2. Accuracy and reliability

### 2.1. Sampling error

The obtained data are weighted due to the unequal probability of selection and non-response. The same methodology is used for all agricultural research. For the key variables (CORE, LAFO, MIRR, MMEQ, MORC, MSMP, RDEV) file total cattle, milk cows, total pigs, total poultry, total horses, sheep and goats, total arable land, total cereals, vegetables, lawns, vineyards, fruit and plantation orchards) standard errors and coefficients of variation were calculated. The estimation procedure was done in SAS, the SURVEYMEANS procedure. The response rate is the proportion of responses among all eligible farms. Invalid farms are those that no longer exist at the time of the survey. The degree of validity is the proportion of valid agricultural holdings among all the agricultural holdings selected in the sample.

#### 2.1.1 Sampling error indicators

| Sampling error indicators: Statistic | Domain | Domain value | Comment | Value |
|---|---|---|---|---|
| Coefficient of variation for cereals | Croatia | Croatia | | 0,004 |
| Coefficient of variation for dry pulses | Croatia | Croatia | | 0,025 |
| Coefficient of variation for root crops | Croatia | Croatia | | 0,017 |
| Coefficient of variation for potatoes | Croatia | Croatia | | 0,036 |
| Coefficient of variation for sugar beet | Croatia | Croatia | | 0,006 |
| Coefficient of variation for oilseeds | Croatia | Croatia | | 0,005 |
| Coefficient of variation for other industrial crops | Croatia | Croatia | | 0,005 |
| Coefficient of variation for green forage | Croatia | Croatia | | 0,01 |
| Coefficient of variation for vegetables and strawberries | Croatia | Croatia | | 0,041 |
| Coefficient of variation for permanent crops | Croatia | Croatia | | 0,044 |
| Coefficient of variation for temperate fruits | Croatia | Croatia | | 0,063 |
| Coefficient of variation for berries | Croatia | Croatia | | 0,027 |
| Coefficient of variation for nuts | Croatia | Croatia | | 0,011 |

| Sampling error indicators: Statistic | Domain | Domain value | Comment | Value |
|---|---|---|---|---|
| Coefficient of variation for vineyards | Croatia | Croatia | | 0,036 |
| Coefficient of variation for olive trees | Croatia | Croatia | | 0,028 |
| Coefficient of variation for permanent grassland | Croatia | Croatia | | 0,012 |
| Coefficient of variation for cattle | Croatia | Croatia | | 0,006 |
| Coefficient of variation for breeding pigs | Croatia | Croatia | | 0,015 |
| Coefficient of variation for Pigs for fattening | Croatia | Croatia | | 0,007 |
| Coefficient of variation for sheep | Croatia | Croatia | | 0,015 |
| Coefficient of variation for goats | Croatia | Croatia | | 0,039 |
| Coefficient of variation for poultry | Croatia | Croatia | | 0,027 |

## 2.2. Non-sampling error

Because post-stratification was not done for this study, misclassification errors were not assessed. However, the IFS2023 results prove that there were no problems with misclassification. All family farms that were not contacted during the fieldwork were later called by phone from the CBS. However, we were unable to contact some of the family farms even by phone. Out of the total number of the sample (33 927), there were farms that were not surveyed for the following reasons:

- 661 farms stopped working
- 144 farms have an unknown status
- 149 farms have a non-response status

Also, 0.5% of the total sample was not contacted (there was no one at the given address, the holder is not known at that address, the address of the farm is incomplete and the phone number of those family farms did not exist). These family farms are also treated as invalid. A total of 7 family farms were listed twice. They were treated as rogues

### 2.2.1. Coverage error

The probability of undercoverage in the Integrated farm statistics (IFS2023) is very low since there are not many new agricultural holdings. We consider that the number of agricultural households decreases, and that the number of newly established farms is not in balance, i.e., that more of those who were terminate of farming. All important new farms are included in administrative registers and were consequently included into the list. With the aid of questions in the questionnaire we also recorded the reasons for the non-eligibility. This helps us for updating the Statistical Register of Agricultural Holdings (exclusion of ineligible family farms from the frame). We assume that the next Agricultural Census will give us the real degree of overcoverage when the entire frame will be updated again. Weighting factors were calculated on the basis of eligibility status of agricultural holdings, with the formula (responses + nonresponses)/responses - on the level of strata.

### 2.2.2. Over-coverage rate

Over-coverage rate is: 3,4%

2.2.3. Measurement error

Statistics corrects possible measurement errors using logic-calculation controls. We strive to avoid measurement errors by training interviewers and supervisors, data control and validation procedures. Characteristics that are complicated for both the respondents and the interviewers relate to the labour force, given that more than 50% of production is for own needs and the importance of other useful activities directly related to the economy. After data entry, extreme values of the variables are checked and corrected if necessary.

2.2.4. Non-response error

The non-response unit was treated with reweighting. The main reasons for non-response are refusals due to the following reasons:

- dissatisfaction with the current agricultural policy in Croatia,
- unresolved property issues (the official procedure regarding inheritance can be very long),
- general refusals due to other reasons.

The survey results were weighted to adjust for the sample design and for the non-response units to produce valid results for the target population. The non-response unit is calculated by reweighting. This will automatically adjust the sample weights of respondents to compensate for the non-response units. Therefore, the CBS experts used the basic method for adjusting the sample design and for the non-response unit and calculated the weights using only the SAS-base module. The risks associated with non-response are low due to the very low non-response rate (0.9%).

2.2.5. Unit non-response rate

Unweighted non-response rate is: -

Weighted non-response rate is: 0,9%

2.2.6. Item non-response rate

Indicator was not computed for this survey.

2.2.7. Processing error

The main sources of processing errors were errors in the survey processing application developed by experts from the Croatian Bureau of Statistics. Data on the number of corrections were not collected during data processing.

2.2.8. Imputation rate

| Weighted imputation rate: Variable | Domain | Domain value | Comment | Value |
|---|---|---|---|---|
| | Croatia | 11,37% | | 0,1137 |

2.2.9. Model assumption error

Not applicable.

**2.3. Data revision**

2.3.1. Data revision – policy

Revision Policy of the Croatian Bureau of Statistics is based on the principles of the European Statistics Code of Practice.

Revision policy of the Croatian Bureau of Statistics distinguishes three types of revisions: regular revisions, major revisions and unscheduled revisions.

Unplanned revision of the IFS2023 may be carried out. In any case it is necessary to clarify the reasons for a revision (mistake in data sources or calculations or due to the unexpected changes in the methodology or data sources).

The users of statistical data are informed about revisions on the website of the Croatian Bureau of Statistics, on the link – General Revision Policy of the CBS.

2.3.2. Data revision – practice

Data revision is not planned so far.

2.3.3. Data revision – average size

Indicator for this survey is not applicable.

### 2.4. Seasonal adjustment

Not applicable.

## 3. Timeliness and Punctuality

### 3.1. Timeliness

Deadline for provisional results: end of 2023. Deadline for final results: end of 2024.

3.1.1. Time lag – first results

Time lag - first results is: T + 2

Preliminary results were released on 2 January 2024, i.e. 2 days from the last day of the reference year.

3.1.2. Time lag – final results

Time lag - final results is: T + 12

The final results were published on December 31, 2024, i.e. 12 months from the last day of the reference year.

### 3.2. Punctuality

All publications were planned and all publications were published on time. First results and final results - 0 days (we do not expect delays in dissemination).

3.2.1. Punctuality – delivery and publication

Delivery and publication is: 0

## 4. Accessibility and clarity

Preliminary results were published in paper version on 02 January 2024. Final results are published on 31 December 2024. The publications contain short methodological explanations such as source and methods of data collection, coverage and comparability, definitions and etc. Results contain all final data. These data are also available on the web site of CBS (www.dzs.hr).

### 4.1. News release

POLJ-2024-2-9 Structure of Agricultural Farms. Situation as on 1 June 2023 | Državni zavod za statistiku

POLJ-2023-2-8 Structure of Agricultural Farms – Provisional Data. Situation as on 1 June 2023 | Državni zavod za statistiku

### 4.2. On-line database

Database with IFS2023 data is available on the website of CBS: Statistical database

https://web.dzs.hr/PXWeb/Menu.aspx?px_language=en&px_db=Poljoprivreda,%20lov,%20%c5%a1umarstvo%20i%20ribarstvo&rxid=765c1411-e9e2-406f-bf57-4c3f3eb8e0b2

### 4.3. Micro-data access

The conditions under which certain users can access microdata are regulated by the Ordinance on Conditions and Terms of Access and Use of Confidential Statistical Data of the Croatian Bureau of Statistics for Scientific Purposes (OG, No. 5/23)

### 4.4. Documentation on methodology

Structure of agricultural holdings - methodological explanations

https://web.dzs.hr/PX-Web_e.asp?url=%22Eng/Archive/stat_databases.htm%22

## 5. Comparability over time

### 5.1. Asymmetry for mirror flows statistics

Not applicable, because there are no mirror flows in Integrated Farm Statistics.

### 5.2. Comparability - over time

The data are comparable over time from 2010.

5.2.1. Length of comparable time series

Length of comparable time series is: 5

5.2.2. Reasons for break in time series

5 years

### 5.3. Coherence – subannual and annual statistics

| Coherence - short-term and structural data is: Statistic | Domain | Domain value | Comment | Value |
|---|---|---|---|---|
| IFS | Croatia | 0 | The results of the IFS 2023 were checked and compared with all available administrative data, previous research and other surveys conducted by the CBS. There were no significant differences. | 0 |

### 5.4. Coherence – national accounts

Indicator was not computed for this survey.

### 5.5. Coherence – administrative sources

| Unweighted values: Statistic | Domain | Domain value | Comment | Value |
|---|---|---|---|---|
| IFS | Croatia | 0 | The results of the IFS 2023 were checked and compared with all available administrative data, previous research and other surveys conducted by the CBS. There were no significant differences. | 0 |

## 6. Cost and burden

### 6.1. Cost

Within the framework of the IFS2023, the regular annual Survey on Areas Sown and Survey on early crops and fruits was carried out. With this kind of organisation, we carried out only one survey and reduced the response burden on farmers. On the other hand, we have to provide results for the Survey on Areas Sown much earlier than for the IFS, which means more burdens for the CBS.

### 6.2. Burden

The biggest burden is on biggest units for which we have full coverage in the sample and for all cycles of surveys while for the smaller units the Classifications, Sampling, Statistical Methods and Analyses Department controlled that the same unit is not included in the sample in consecutive number of times.