

QUALITY REPORT FOR STATISTICAL SURVEY
CROP PRODUCTION
For 2020

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0. Basic information

- Purpose, goal, and subject of the survey

The objective of the statistical survey on crop production is to obtain the most accurate data possible on the situation in Croatian agriculture, having in mind its importance for Croatian economy. The obtained data will be an indicator that will enable local and state authorities to more accurately define the problems in this branch and, accordingly, plan and make appropriate decisions and provide appropriate support for agricultural development.

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

- the manner of land use according to the situation (arable land and gardens, permanent crops, vegetable gardens, meadows and pastures)
- the area of orchards, vineyards and olive groves and the number of extensive and plantation fruit trees
- the total number of vines and olive trees
- expected yield of some important crops and fruits.

The Croatian Bureau of Statistics is responsible for agricultural statistics. Since 2005, Croatia has been conducting sample-based surveys using the interview method. Data on business entities are collected in two ways: by using the reporting method on an appropriate form or via a web-based application.

In June, the Survey on utilised areas and land sown at the end of spring harvest, on the number of fruit trees and the number of vines (situation as on 1 June) is conducted.

In November, the Survey on Autumn Harvest (situation as on 10 November) is conducted.

From June to January, there is a number of surveys on expected yields and harvested areas, yields and production.

Data on expected yields for private family farms are collected on a selected stratified sample, and for business entities and parts thereof on the whole population. Data collection is linked to the crop production statistics.

The crop production statistics comprise the following annual surveys:

1. Survey on Autumn Harvest (PO-21 form), situation as on 10 November
2. Survey on Actual Yields of Late Crops, Fruits and Grapes (PO-33 form), situation as on 10 November
3. Survey on Actual Yields of Citrus Fruits and Olives (PO-34 form), situation as on 31 December; the sample covers the Mediterranean part of Croatia.

In 2020, the Agricultural Census was conducted, which was the basis for the following surveys: PO 21, PO 33 and PO 34, while the following surveys were not conducted: Survey on Utilised Areas and Land Sown at the end of Spring Harvest (PO-22 form) and the Survey on Actual Yield of Early Crops and Fruits (PO-32 form).

The results of all surveys are available at HR NUTS 1 and HR NUTS 2 levels.

- Reference period

Calendar year

- Legal acts and other agreements

The methodology is fully harmonised with Eurostat's recommendations (Regulation (EC) No. 543/2009 of the European Parliament and of the Council of 18 June 2009 concerning crop statistics and repealing Council Regulations (EEC) No. 837/90 and (EEC) No. 959/93) and Commission Delegated Regulation (EU) No. 1557/2015 amending Regulation (EC) No. 543/2009 of the European Parliament and of the Council concerning crop statistics, repealing Regulations (EEC) No. 837/90 and (EEC) No. 959/93. Crop production statistics cover at least 95% of the following areas:

- total area under crops on arable land
- total harvested area of fruits, melons and strawberries
- total production of permanent crops
- utilised agricultural land.

National Classification of Activities, 2007 version – NKD 2007 (NN, No. 58/07 and 72/07)

Ordinance on Amendments to the Ordinance on the Classification of Business Entities According to the National Classification of Activities 2007 – NKD 2007 (NN, No. 35/18)

Classification of Products by Activities of the Republic of Croatia, 2015 version – KPD 2015 (NN, No 157/14)

Official Statistics Act (NN, No. 25/20)

- Classification system

Decision on the National Classification of Activities, 2007 version – NKD 2007

Classification of Products by Activities of the Republic of Croatia, 2015 version – KPD 2015

- Statistical concepts and definitions

In 2020, the Agricultural Census was conducted, while the Survey on Utilised Areas and Land Sown at the end of Spring Harvest (PO-22 form) was not conducted. The following data from the Agricultural Census were used:

- on the manner of land use according to the situation (arable land and gardens, permanent crops, vegetable gardens, meadows and pastures)
- on the area of orchards, vineyards and olive groves and the number of extensive and plantation fruit trees
- on the total number of vines and olive trees
- on expected yield of some important crops and fruits, allowing comparability of data across the European Union.

The Report on Autumn Sowing (PO-21 form) collects data on land sown in autumn. Data on land sown are presented in hectares.

The Survey on Actual Yields of Late Crops, Fruits and Grapes (PO-33 form) collects data on harvested areas and actual yields of late crops of fruits and grapes. Data on harvested areas of late crops are presented in hectares, while the production and yield per hectare are presented in tonnes. Data on yields refer to the situation as on 10 November 2020.

The Survey on Actual Yields of Citrus Fruits and Olives (PO-34 form) collects data on the production. Data on yields refer to the situation as on 31 December 2020.

- **Statistical units**

Statistical unit is an agricultural holding that has a unique management, shares the means of production (machinery, facilities, land) and labour force, and operates as a company, craft, cooperative or private family farm.

- **Statistical population**

The basic set includes all agricultural holdings that have at least 40 acres of utilised agricultural area (UAA), or less than 0.40 hectares of utilised agricultural area (UAA), but they have:

- at least 0.10 hectares of orchards, vineyards and/or olive groves
- area of nurseries > 0
- area under fruits, flowers and horticultural plants intended for market.

1. Relevance

1.1. Data users

National accounts, agricultural institutes, Ministry of Agriculture, Government of the Republic of Croatia.

1.1.1. User needs

Forming economic policy and allocating state budget resources.

1.1.2. User satisfaction

The user satisfaction survey was conducted in 2015 and the results are available on request.

1.2. Completeness

Data are submitted in accordance with the European Commission Regulations.

1.2.1. Data completeness rate

Data completeness rate is 100%.

2. Accuracy and reliability

2.1. Sampling error

The data obtained are weighted due to the unequal probability of selection and non-response. The same methodology is applied to all surveys on agriculture.

For key variables (total arable land, total cereals, vegetables, grasslands, vineyards, orchards and plantation orchards), standard errors and coefficients of variation are calculated. The estimation procedure was performed via SAS, the SURVEYMEANS procedure. The response rate is the share of responses among all valid private family farms. Non-valid private family farms are those that no longer exist at the time of surveying. The validity rate is the share of valid private family farms in all private family farms selected for the sample.

2.1.1. Sampling error indicators

Sampling error indicators

| Statistics | Domain | Domain value | Comment | Value |
|------------|--------|--------------|--|-------|
| | | | Coefficients of variation for areas under: Grain maize – 0.55% Dried pulses – 1.81% Root crops – 0.54% Oilseeds – 0.43% Soya beans – 0.06% Vegetables 3.58% Permanent crops – 4.23% Temperate fruits – 3.47% Nuts – 9.43% Vineyards – 2.53% Olive groves – 1.16% | 0.01 |

2.2. Non-sampling error

Since no poststratification was performed for this survey, misclassification errors were not assessed. However, the Farm Structure Survey results show that there were no problems with misclassification. All private family farms that were not contacted during the fieldwork were later contacted by phone by the Croatian Bureau of Statistics. However, some of the private family farms could not be contacted even by phone.

2.2.1. Coverage error

Over-coverage rate by surveys:

1. Survey on Autumn Harvest (PO-21 form) – 1.87%
2. Survey on Actual Yields of Late Crops, Fruits and Grapes (PO-33 form) – 0.56%
3. Survey on Actual Yields of Citrus Fruits and Olives (PO-34 form) – 0.16%

There is under-coverage, but it cannot be estimated and includes unregistered agricultural holdings.

2.2.2. Over-coverage rate

Over-coverage rate is 1%.

2.2.3. Measurement error

Statistics correct possible measurement errors by data editing. We try to avoid measurement errors by training interviewers, by data control and the validation process.

After entering the data, the extreme values of variables are checked and corrected if necessary.

2.2.4. Non-response errors

The main reasons for non-response were refusals for the following reasons:

- dissatisfaction with the current agricultural policy in Croatia
- issues with unresolved ownership (official succession procedures can be time-consuming)
- general refusal for other reasons.

Non-response errors by surveys:

1. Survey on Autumn Harvest (PO-21 form) – 15.39%
2. Survey on Actual Yields of Late Crops, Fruits and Grapes (PO-33 form) – 4.94%
3. Survey on Actual Yields of Citrus Fruits and Olives (PO-34 form) – 14.24%

2.2.5. Unit non-response rate

Unweighted non-response rate is 12%.

2.2.6. Item non-response rate

The indicator for this survey is not computed.

2.2.7. Processing errors

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 for certain variables

| Variable | Domain | Domain value | Comment | Value |
|------------------------------|---------|--------------|-------------------------|-------|
| Area and production of crops | Croatia | 11 000 | Imputation rate is 10%. | 1 |

2.2.9. Model assumption error

Not applicable.

2.3. Data revision

2.3.1. Data revision – policy

The users of statistical data are informed about revisions (provisional, final data) on the website of the Croatian Bureau of Statistics.

2.3.2. Data revision – practice

Provisional data are not published in the survey; therefore, there are no data revisions.

2.3.3. Data revision – average size

The indicator for this survey is not computed.

2.4. Seasonal adjustment

Not applicable.

3. Timeliness and punctuality 3.1.

Timeliness

1 June 2020 – 14 May 2021

3.1.1. Time lag – first results

Time lag – first results is T + 1 month.

3.1.2. Time lag – final results

Time lag – final results is T + 11 months.

3.2. Punctuality

None.

3.2.1. Punctuality – delivery and publication

Delivery and publication is 100%.

4. Accessibility and clarity

Final results were published on 14 May 2021. Publications contain short notes on methodology, such as sources and methods of data collection, coverage and comparability, definitions, etc. Results contain all final data. The survey results can be found on the website of the Croatian Bureau of Statistics at www.dzs.hr.

4.1. News releases

Not published.

4.2. Online database

Data are available on the website of the Croatian Bureau of Statistics in PC-Axis. https://web.dzs.hr/PX-Web.asp?url=%22Hrv/Archive/stat_databases.htm%22

4.3. Micro-data access

The conditions under which certain users can access microdata are regulated by the Ordinance on the Conditions and Manner of Using Confidential Statistical Data for Scientific Purposes (NN, No. 137/13).

4.4. Documentation on methodology

PC-Axis Database.

5. Coherence and comparability

5.1. Asymmetry for mirror flows statistics

Not applicable.

5.2. Comparability over time

Data are comparable from 2000.

5.2.1. Length of comparable time series

Length of comparable time series is 20.

5.2.2. Reasons for break in time series

Prior to 2000, different methodology was applied in surveys and product structure was not the same.

5.3. Coherence – subannual and annual statistics

The indicator for this survey is not computed.

5.4. Coherence – national accounts

The indicator for this survey is not computed.

5.5. Coherence – administrative sources

Coherence – administrative sources

| Statistics | Domain | Domain value | Comment | Value |
|------------|--------|--------------|---------|-------|
| | | | | 1 |

6. Cost and burden

6.1. Cost

Approximately 60 000 euros.

6.2. Burden

The greatest burden is on the largest units, for which there is a full coverage in the sample for all stages of the survey, while for smaller units, the Sampling Unit ensures that the same unit is not included in the sample for several consecutive periods.