REPUBLIC OF CROATIA
CROATIAN BUREAU OF STATISTICS

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# QUALITY REPORT FOR STATISTICAL SURVEY

# CROP PRODUCTION

# For 2018

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January 2023

## 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:

- 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.

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 utilised areas and land sown at the end of spring harvest (PO-22 form), situation as on 1 June (includes questions on expected yields of some important early crops)
3) Survey on actual yield of early crops and fruits (PO-32 form), situation as on 15 August (includes questions on expected yields of late crops)
4) Survey on actual yields of late crops, fruits and grapes (PO-33 form), situation as on 10 November
5) 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.

The results of these surveys are available at NUTS 1 and 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.

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

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

Official Statistics Act (NN, No. 103/03, 75/09, 59/12 and 12/13 – consolidated text)

- 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

The main objective of the Survey on utilised areas and land sown at the end of spring harvest (PO-22 form) data on the following:

- 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 and provide common list of features observed using common rules and procedures, allowing comparability of data across the European Union.

- 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 0.40 hectares 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: early cereals – 0.97%, grain maize – 1.18%, dried pulses – 7.18%, root crops – 2.31%, oilseeds – 1.81%, rapeseed – 2.19%, soya beans – 2.25%, vegetables and strawberries – 3.54%, permanent crops – 2.52%, temperate fruits – 2.71%, nuts – 4.71%, vineyards – 3.37%, olive groves – 0.96% | 0.1 |

## 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) − 1.70%

2) Survey on utilised areas and land sown at the end of spring harvest (PO-22 form) − 10.30%

3) Survey on actual yield of early crops and fruits (PO-32 form) – 1.83%

4) Survey on actual yields of late crops, fruits and grapes (PO-33 form) − 0.94%

5) Survey on actual yields of citrus fruits and olives (PO-34 form) − 0.24%

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

2.2.2. Over-coverage rate

Over-coverage rate is 3%.

2.2.3. Measurement errors

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) − 30.18%

2) Survey on utilised areas and land sown at the end of spring harvest (PO-22 form) − 13.40%

3) Survey on actual yield of early crops and fruits (PO-32 form) – 2.66%

4) Survey on actual yields of late crops, fruits and grapes (PO-33 form) − 2.24%

5) Survey on actual yields of citrus fruits and olives (PO-34 form) − 30.27%

2.2.5. Unit non-response rate

Unweighted non-response rate is 16%.

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 data, 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 2018 – 14 May 2019

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

No delay.

3.2.1. Punctuality – delivery and publication

Delivery and publication is 100%.

## 4. Accessibility and clarity

Final results were published on 14 May 2019. 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 https://dzs.gov.hr/en.

### 4.1. News releases

Crop production, 2018

### 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.

### 4.4. Documentation on methodology

The basic notes on methodology are published in the First Release.

## 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 18.

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 with data from administrative sources is as follows.

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

## 6. Cost and burden

### 6.1. Cost

Approximately 90 000 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.