

## Single Integrated Metadata Structure (SIMS)

**Country:** Greece

**Compiling agency:** ELSTAT

**Domain name:** Orchard Survey

ELSTAT metadata
<a href="#">Reference metadata</a>
<a href="#">1. Contact</a>
<a href="#">2. Introduction</a>
<a href="#">3. Metadata update</a>
<a href="#">4. Statistical presentation</a>
<a href="#">5. Unit of measure</a>
<a href="#">6. Reference period</a>
<a href="#">7. Institutional mandate</a>
<a href="#">8. Confidentiality</a>
<a href="#">9. Release policy</a>
<a href="#">10. Frequency of dissemination</a>
<a href="#">11. Dissemination format</a>
<a href="#">12. Accessibility of documentation</a>
<a href="#">13. Quality management</a>
<a href="#">14. Relevance</a>
<a href="#">15. Accuracy and reliability</a>
<a href="#">16. Timeliness and punctuality</a>
<a href="#">17. Comparability</a>
<a href="#">18. Coherence</a>
<a href="#">19. Cost and burden</a>
<a href="#">20. Data revision</a>
<a href="#">21. Statistical processing</a>
<a href="#">22. Comment</a>

1. Contact <a href="#">Top</a>	
1.1 Contact organisation	ELSTAT (Hellenic Statistical Authority)
1.2 Contact organisation unit	Primary Sector Statistics Division (C2) Livestock and Crop Capital Statistics Section (C21)
1.3 Contact name	Maria Oikonomakou (Mrs)
1.4 Contact person function	Head of the Section
1.5 Contact mail address	Pireos 46 & Eponiton

	18510 – Piraeus
<b>1.6 Contact email address</b>	<a href="mailto:m.oikonomakou@statistics.gr">m.oikonomakou@statistics.gr</a>
<b>1.7 Contact phone number</b>	(+30) 213 135 2053
<b>1.8 Contact fax number</b>	(+30) 213 135 2474

## 2. Introduction

[Top](#)

The orchard survey is a sample survey that is carried out every five years in order to provide information on the cultivated areas under fruit trees and the corresponding production.

## 3. Metadata update

[Top](#)

<b>3.1 Metadata last certified</b>	October 2014
<b>3.2 Metadata last posted</b>	October 2014
<b>3.3 Metadata last update</b>	October 2014

## 4. Statistical presentation

[Top](#)

### 4.1 Data description

The statistical surveys on orchards are carried out every five years according to the Council Regulation 1337/2011, in order to provide information on the cultivated areas and the corresponding agricultural production of Greece, at Regional level (NUTS 1), thus offering a basis for decision-making concerning Common Agricultural Policy.

The main objective of the Survey is the collection of data on cultivated areas under fruit trees by species (apple trees, pear trees, peach trees, apricot trees, cherry trees, orange trees, lemon trees, small citrus fruit trees), their production and the number of trees, as well as other characteristics, such as areas with new plantings and grabbing-up by species, variety and age.

The survey is a sample survey and the sampling method used is the single stratified random sampling. The unit of the survey is the agricultural holding under the specific kind of fruit tree that is surveyed. The agricultural holdings under fruit trees that are included in the survey are stratified as follows:

- by NUTS 1 (Regulation No 1337/2011 of the European Parliament and of the Council)
- by Size Class of the holding

The survey is conducted in all EU Member States using harmonized methodology and the characteristics and variables of the survey are laid down in Community legislation.

### 4.2 Classification system

The surveys refer to the following species of fruit trees: apple, pear, peach, apricot, cherry, orange, lemon and small citrus fruit.

The species of fruit and the varieties, the statistical classes on the age of the trees and the statistical classes for the density of plantation are listed in Annex I to [Regulation \(EU\) No1337/2011 of the European Parliament and of the Council](#).

The geographical classification is related to NUTS 1.

### 4.3 Sector coverage

Sample survey. The survey is conducted by:

- Region (NUTS 1)
- Species of fruit trees

- Size class of the holdings.

#### Threshold

A holding under orchard trees in order to be included into the sampling frame of the survey, should cultivate more than 0.1 stremmas (1 stremma: Greek unit of land area equal to 1,000 square metres).

### **4.4 Statistical concepts and definitions**

For the purposes of the survey the following definitions shall apply:

- "harvest year" means the calendar year in which the harvest begins,
- "utilised agricultural area" means the total area taken up by arable land, permanent crops and kitchen gardens used by the holdings, regardless of the type of tenure or whether it is used as common land,
- "planted area" means the area of the parcels planted with a homogeneous plantation of the relevant permanent crop;
- "permanent crop" means a crop not grown in rotation, other than permanent grassland, which occupies the soil for a long period and yields crops over several years;
- "plantation density" means the number of plants by area planted;
- "age of the plant" means the number of years since the planting year, which shall be considered to be year 1;

### **4.5 Statistical unit**

The statistical unit of the survey is the agricultural or mixed holding (a unified unit both in terms of technical and economic perspective, which is run by a unified management body and produces agricultural products). More specifically, the surveyed unit is an agricultural holding that cultivates fruit trees.

### **4.6 Statistical population**

The statistical population of the orchard survey is all holdings that cultivate fruit trees (target population) and is specified according to the updated Register of Agricultural or Mixed Holdings of ELSTAT.

### **4.7 Reference area**

The survey covers the whole of the country (Greece) and the survey results are published at the level of the Region (NUTS 1) as well as at the total country level.

### **4.8 Time coverage**

Orchard survey data is available for the following years: 1982, 1987, 1992, 1997, 2002, 2007 and 2012. In addition, for the period 1982-1997 except of the basic survey conducted every five years, a special survey was conducted every year in order to study specific features, such as new plantings and grubblings. The survey results are available electronically for the years 1997-2012, while for the previous years the results are available in paper form.

### **4.9 Base period**

Not applicable

## **5. Unit of measure**

[Top](#)

Number of stremmas, number of trees, production in kg and tonnes. (1 stremma: Greek unit of land area equal to 1,000 square metres).

## 6. Reference period

[Top](#)

Cultivating period from 1 November of the year preceding the year of the survey until 31 October of the year when the survey is conducted.

## 7. Institutional mandate

[Top](#)

### 7.1 Legal acts and other agreements

The legal framework concerning the organization and operation of ELSTAT is as follows:

- Law 3832/2010 (Government Gazette No 38, Issue A): "Hellenic Statistical System Establishment of the Hellenic Statistical Authority (ELSTAT) as an Independent Authority", as amended by article 90 paragraphs 8 and 9 of the Law 3842/2010 (Government Gazette No 58, Issue A): "Restoration of fiscal justice, confrontation of tax evasion and other provisions", by article 10 of the Law 3899/2010 (Government Gazette No 212, Issue A): "Urgent measures for the implementation of the assistance program of the Greek Economy", by article 45 of the Law 3943/2011 (Government Gazette No 66, Issue A): "Combating tax evasion, staffing of auditing services and other provisions falling within the competence of the Ministry of Finance", by article 22 paragraph 1 of the Law 3965/2011 (Government Gazette No 113, Issue A): "Operations Reform of the Consignment and Loan Fund, Public Debt Management Agency, Public Enterprises and Government bodies, the establishment of the General Secretary of Public Property and other provisions", by article first of the Law 4047/2012 (Government Gazette No 31, Issue A): "Ratification of the Act of Legislative Content "Very urgent measures for the implementation of the Medium-term Fiscal Strategy 2012-2015 and of the State Budget for 2011" and of the Act of Legislative Content "Regulation of very urgent issues for the implementation of law 4024/2011 "Pension provisions, uniform pay scale - grading system, labour reserve and other provisions for the implementation of the Medium-term Fiscal Strategy Framework 2012-2015" and of issues falling within the competence of the Ministries of Administrative Reform and E-Governance, Interior, Finance, Environment, Energy and Climate Change, and of Education, Lifelong Learning and Religious Affairs and related to the implementation of the Medium-term Fiscal Strategy Framework 2012-2015" and other provisions", by article 323 of the Law 4072/2012 (Government Gazette No 86, Issue A): "Improvement of the business environment New corporate form - Trade Marks - Realtors - Regulating maritime, port and fishing matters and other provisions" and by article 7 paragraph 1 of the Act of Legislative Content dated 18/11/2012 (Government Gazette No 228, Issue A): "Financial rules and other provisions", by Article 93 of the Law 4182/2013 (Government Gazette No 185, Issue A): "Code of charitable estate, inheritances in abeyance and other provisions", by Article 6 paragraph 8 of the Law 4244/2014 (Government Gazette 60, Issue A): "Integration in Greek law of the Council Directive 2013/1/EU of 20 December 2012 amending Directive 93/109/EC as regards certain detailed arrangements for the exercise of the right to vote and stand as a candidate in elections to the European Parliament for citizens of the Union residing in a Member State of which they are not nationals and amendment of law 2196/1994 (A' 41) and other provisions", by Article first subparagraph C.3 of the Law 4254/2014 (Government Gazette No 85, Issue A): "Measures for the support and development of the Greek economy, in the context of the implementation of Law 4046/2012, and other provisions of law" and by Article 33, paragraphs 5a and 5b of the Law 4258/2014 (Government Gazette No 94, Issue A): "Demarcation process and arrangements of matters for streams - arrangements of Urban Planning legislation and other provisions".
- Regulation on the Operation and Administration of the Hellenic Statistical Authority (ELSTAT), 2012, (Government Gazette No 2390, Issue B, 28-8-2012)
- Regulation (EC) No 223/2009 of the European Parliament and of the Council, on the European statistics (Official Journal of the European Union L 87/164).
- Article 14 of the Law 3470/2006 (Government Gazette No 132, Issue A): "National Export Council, tax regulations and other provisions".
- Article 3, paragraph 1c, of the Law 3448/2006 (Government Gazette No 57, Issue A): "For the further use of information coming from the public sector and the settlement of matters falling within

the responsibility of the Ministry of Interior, Public Administration and Decentralization”.

- European Statistics Code of Practice, adopted by the Statistical Programme Committee on 24 February 2005 and promulgated in the Commission Recommendation of 25 May 2005 on the independence, integrity and accountability of the national and Community statistical Authorities, after its revision, which was adopted on 28 September 2011 by the European Statistical System Committee.
- Presidential Decree 226/2000 (Government Gazette No 195, Issue A): “Organization of the General Secretariat of the National Statistical Service of Greece”.
- Articles 4, 12 , 13, 14, 15 and 16 of the Law 2392/1996 (Government Gazette No 60, Issue A): "Access of the General Secretariat of the National Statistical Service of Greece to administrative sources and administrative files, Statistical Confidentiality Committee, settlement of matters concerning the conduct of censuses and statistical works, as well as of matters of the General Secretariat of the National Statistical Service of Greece".

European Legislation:

- Orchard survey is conducted every five years and the results are transmitted to Eurostat on the basis of the Regulation (EU) No 1337/2011 of the European Parliament and of the Council concerning statistics on orchards and repealing Council Regulation No 357/79 and Directive 2001/109/EC.

## 7.2 Data sharing

Not applicable.

## 8. Confidentiality

[Top](#)

### 8.1 Confidentiality policy

The issues concerning the observance of statistical confidentiality by the Hellenic Statistical Authority (ELSTAT) are arranged by articles 7, 8 and 9 of the Law 3832/2010 as in force, by Articles 8, 10 and 11(2) of the Regulation on Statistical Obligations of the agencies of the Hellenic Statistical System and by Articles 10 and 15 of the Regulation on the Operation and Administration of ELSTAT.

More precisely:

ELSTAT disseminates the statistics in compliance with the statistical principles of the European Statistics Code of Practice and in particular with the principle of statistical confidentiality.

### 8.2 Confidentiality – data treatment

- ELSTAT protects and does not disseminate data it has obtained or it has access to, which enable the direct or indirect identification of the statistical units that have provided them by the disclosure of individual information directly received for statistical purposes or indirectly supplied from administrative or other sources. ELSTAT takes all appropriate preventive measures so as to render impossible the identification of individual statistical units by technical or other means that might reasonably be used by a third party. Statistical data that could potentially enable the identification of the statistical unit are disseminated by ELSTAT if and only if:
  - a) these data have been treated, as it is specifically set out in the Regulation on Statistical Obligations of the agencies of the Hellenic Statistical System (ELSS), in such a way that their dissemination does not prejudice statistical confidentiality or
  - b) the statistical unit has given its consent, without any reservations, for the disclosure of data.
- The confidential data that are transmitted by ELSS agencies to ELSTAT are used exclusively for statistical purposes and the only persons who have the right to have access to these data are the personnel engaged in this task and appointed by an act of the President of ELSTAT.
- ELSTAT may grant researchers conducting statistical analyses for scientific purposes access to data that enable the indirect identification of the statistical units concerned. The access is granted provided the following conditions are satisfied:

- a) an appropriate request together with a detailed research proposal in conformity with current scientific standards have been submitted;
  - b) the research proposal indicates in sufficient detail the set of data to be accessed, the methods of analyzing them, and the time needed for the research;
  - c) a contract specifying the conditions for access, the obligations of the researchers, the measures for respecting the confidentiality of statistical data and the sanctions in case of breach of these obligations has been signed by the individual researcher, by his/her institution, or by the organization commissioning the research, as the case may be, and by ELSTAT.
- Issues referring to the observance of statistical confidentiality are examined by the Statistical Confidentiality Committee (SCC) operating in ELSTAT. The responsibilities of this Committee are to make recommendations to the President of ELSTAT on:
    - the level of detail at which statistical data can be disseminated, so as the identification, either directly or indirectly, of the surveyed statistical unit is not possible;
    - the anonymization criteria for the microdata provided to users;
    - the granting to researchers access to confidential data for scientific purposes.
  - The staff of ELSTAT, under any employment status, as well as the temporary survey workers who are employed for the collection of statistical data in statistical surveys conducted by ELSTAT, who acquire access by any means to confidential data, are bound by the principle of confidentiality and must use these data exclusively for the statistical purposes of ELSTAT. After the termination of their term of office, they are not allowed to use these data for any purpose.
  - Violation of data confidentiality and/or statistical confidentiality by any civil servant or employee of ELSTAT constitutes the disciplinary offence of violation of duty and may be punished with the penalty of final dismissal.
  - ELSTAT, by its decision, may impose a penalty amounting from ten thousand (10,000) up to two hundred thousand (200,000) euros to anyone who violates the confidentiality of data and/or statistical confidentiality. The penalty is always imposed after the hearing of the defense of the person liable for the breach, depending on the gravity and the repercussions of the violation. Any relapse constitutes an aggravating factor for the assessment of the administrative sanction.

## 9. Release policy

[Top](#)

### 9.1 Release calendar

The orchard survey data are disseminated as soon as available. At the end of the year, ELSTAT publishes a release calendar that includes the exact press releases' dates of all statistical work for the next year.

### 9.2 Release calendar access

The release calendar is distributed to the press and is available free of charge to anyone interested. The release calendar is also posted on ELSTAT website:

[http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/release\\_calendar\\_en.pdf](http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/release_calendar_en.pdf)

### 9.3 User access

More information on the results of the survey and the methodology followed can be found on the website of ELSTAT ([www.statistics.gr](http://www.statistics.gr)) at the link "Statistical Themes"> Agriculture> Tree crops:

[http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p\\_param=A0407](http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A0407)

as well as on Eurostat website:

[http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

## 10. Frequency of dissemination

[Top](#)

The dissemination is on a five-year basis.

## 11. Dissemination format

[Top](#)

### 11.1 News release

Press releases are published on the website of ELSTAT in accordance with the release calendar:

[http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/release\\_calendar\\_en.pdf](http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/release_calendar_en.pdf)

### 11.2 Publications

Orchard survey data are not included in printed publications.

### 11.3 On-line database

The on-line database is available on ELSTAT website:

<http://www.statistics.gr/portal/page/portal/ESYE/PAGE-database>

#### 11.3.1 Data tables - consultations

Regarding the user requests to the Statistical Information Dissemination Section of ELSTAT for data concerning the agricultural sector, there were 354 requests in 2013 and 271 in 2014 (01/01/2014 to 01/10/2014).

### 11.4 Micro-data access

The microdata are available on request to:

Statistical Information Dissemination Section - ELSTAT,

46, Pireos & Eponiton Str, 80847 Piraeus,

Tel ++30 213 135 2311, fax ++30 213 135 2312

e-mail: [data.dissem@statistics.gr](mailto:data.dissem@statistics.gr)

For confidentiality reasons, access to microdata is permitted only under strict conditions and with respect of the relevant process.

### 11.5 Other

➤ ELSTAT website:

[http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p\\_param=A0407](http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A0407)

➤ EUROSTAT website:

[http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

➤ Users can be given data or other statistical analysis, after submitting an application to the Statistical Information Dissemination Section - ELSTAT, 46, Pireos & Eponiton Str, 80847 Piraeus,

Tel ++30 213 135 2311,

fax ++30 213 135 2312,

<http://dlib.statistics.gr/portal/page/portal/ESYE/>

#### 11.5.1 Metadata – consultations

See 11.3.1

<b>12. Accessibility of documentation</b>	<a href="#">Top</a>
<b>12.1 Documentation on methodology</b>	
<a href="http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A0407&amp;r_param=SPG63&amp;y_param=MT&amp;mytabs=0">http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A0407&amp;r_param=SPG63&amp;y_param=MT&amp;mytabs=0</a>	
<b>12.1.1 Metadata completeness - rate</b>	
Metadata are complete.	
<b>12.2 Quality documentation</b>	
Not compiled.	

<b>13. Quality management</b>	<a href="#">Top</a>
<b>13.1 Quality assurance</b>	
<p>In a first stage, quality assurance is achieved by checking completeness of the questionnaires and subsequently by quality checks for data validation, which are conducted during the whole process of the compilation of the data. Additionally, logical checks are conducted in order to identify and correct any non-sampling errors (coverage or measurement errors or data process errors, etc). Moreover, the coefficients of variation for the estimation of area with fruit trees is calculated, in order to assess the sampling errors.</p>	
<b>13.2 Quality assessment</b>	
<p>The quality of the survey is satisfactory, since the percentage of sampling errors, expressed as coefficient of variation, does not exceed 1.5%. Additionally the non-sampling errors are considered almost negligible.</p>	

<b>14. Relevance</b>	<a href="#">Top</a>
<b>14.1 User needs</b>	
<p>According to ELSTAT's general policy the user needs are expressed in user conferences conducted at regular intervals. ELSTAT also records the user needs through the every day communication between the institution and the users. ELSTAT compiles its annual programs as well as the 3-year program of the Hellenic Statistical System setting as a goal the satisfaction of users needs.</p> <p>Main users of agricultural surveys data are: National Accounts Division of ELSTAT, Ministry of Rural Development and Food, Universities, Research centers, European and International Organizations.</p> <p>The data are used for drawing agricultural policy at national level and the Common Agricultural Policy in the framework of the Community organization of markets and agricultural products.</p> <p>In addition, the data cover national needs pertaining to the elaboration of development programs in the agricultural sector, as well as international obligation of Greece.</p>	
<b>14.2 User satisfaction</b>	
<a href="http://www.statistics.gr/portal/page/portal/ESYE/PAGE-conferences">http://www.statistics.gr/portal/page/portal/ESYE/PAGE-conferences</a>	
<b>14.3 Completeness</b>	
According to the users needs and the Commission Regulation, full completeness exists.	



## 15. Accuracy and reliability

[Top](#)

### 15.1 Overall accuracy

The results of the survey are characterized by high accuracy, since the sampling errors for the main variables are low (falls within the limits) and the non-sampling errors are negligible, fully meeting the requirements of EU Regulations.

### 15.2 Sampling error

Sampling errors, expressed as coefficient of variation (CV), fall within the limits laid down in EU Regulations.

The sampling errors of the cultivated area estimation by type of tree, in the orchard survey 2012, are presented below:

Fruit Tree	CV (%)
Mandarin trees	0.9
Pear trees	0.9
Apple trees	0.8
Cherry trees	0.7
Orange trees	0.6
Apricot trees	0.8
Peach trees	0.6
Lemon trees	1.5

### 15.3 Non-sampling error

Due to non-response of some holdings in the sample, non-response errors occur, which are not considered significant, since the average values of the variables for holdings that responde, and for those that do not responde, are not statistically significant by size class of the holdings.

Apart from the non-response errors, also other non-sampling errors occur, such as measurement errors, processing errors (koding, data entry). These errors, after the conduction of logical controls, are identified and corrected.

Errors may also occur due to misclassification. Misclassification stems from the fact that the auxiliary information provided by the frame may be inaccurate for some population units (e.g. wrong size). Due to misclassification problems, a number of sampling units may change design strata after the data collection

In the orchard survey, these units were allocated to the new strata (post-stratification), retaining or sometimes changing their initial selection probabilities. This provokes changes in the initial element variance, it destroys the initial optimum allocation of sample units and as a result it inflates the variance of the estimates. Consequently, the co-efficient of variation of the produced statistics is higher than the co-efficient of variation based on the initial sample design.

#### 15.3.1 Coverage error

Coverage errors (or frame errors) are arisen due to existing divergences between the target population and the frame population. The survey design was based on data from the Agricultural and Livestock holdings register that was compiled based on the agricultural census 2009.

##### Over-coverage

Over-coverage stems from the fact that there are units accessible via the frame but they do not belong to the target population. In the orchard survey, the over-coverage mainly has to do with holdings that were included in the agricultural register, they were selected in the sample, but they did not actually exist at the time of the survey (closed holdings). These holdings actually reduce the initial sample size.

The decrease of the number of sampling units from the initial to the actual size inflates the variance of the parameter's estimate.

#### Under-coverage

Under-coverage refers to units missing from the sampling frame. The under-coverage of the frame underestimates the produced statistics. Corrections and weighting for non-coverage is difficult, because the under-coverage rates cannot be obtained from the sample itself, but only from external sources.

#### **15.3.1.1 Over-coverage – rate**

Not estimated.

#### **15.3.1.2 Common units – proportion**

Not estimated.

#### **15.3.2 Measurement error**

Measurement errors occur during the data collection and make the recorded values of variables to be different than the true ones. Their causes are commonly categorized as:

- Survey instrument: Questionnaire or other measuring instrument used for data collection may lead to recording of wrong values,
- Respondent: Respondents may, consciously or unconsciously, provide erroneous data
- Interviewer: Interviewers may influence the answers given by respondents.

Generally, measurement errors can be regarded as random errors and contributes in the increase of the variance. This extra variance (interview variance) is linked with the data collection process and also has large effect on the accuracy of survey characteristics.

In the orchard survey, the data collection method used was face-to-face interview completing paper questionnaires. The collection method applied ensured the high quality of the information gathered, since the interviewers assisted the respondents, and carefully checked the filled in questionnaires, before leaving the holding.

The interviewers participated in the survey were private collaborators. Before the initiation of the survey, the interviewers attended a training seminar. The scope of the seminar was to enable the interviewers to: a) fully understand the definitions of the survey characteristics in order to avoid the respondent bias, (b) correctly fill in the questionnaire, and (c) efficiently check for errors by applying logical checks.

The structure and the size of the questionnaire were designed to be user-friendly for the interviewers and the questions were formulated in a clear and simple language, using appropriate vocabulary. Additionally, documents containing useful instructions were compiled, analyzing all the questions of the questionnaire. This activity aimed at collecting fully filled in questionnaires, with no missing variables.

The support and supervision of the data collection and the data processing were decentralized in the regional offices of ELSTAT. In regional offices the staff was involved in coding, checking for the detection of measurement errors, logical checks and comparisons of the survey data with other sources of statistical information.

After performing all final checks for identifying non-sampling errors, the database was ready for the extrapolation weighting process and the plausibility checks after tabulation. These checks included comparisons of data with relevant data of previous years and of other surveys.

#### **15.3.3 Non response error**

Since the stratified sample is applied, due to the homogeneity in each stratum, approximately the average area size of respondents is equal to non-respondents. Thus, the effect of non-response on the accuracy of the results is negligible.

The non-response rates (%) by kind of trees in the orchard survey 2012 are presented below:

Fruit Tree	Initial Sample Size	Respondents	Non-response rate (%)
Mandarin trees	583	546	6.3
Pear trees	447	428	4.3
Apple trees	435	435	0.0
Cherry trees	562	559	0.5
Orange trees	893	861	3.6
Apricot trees	400	399	0.3
Peach trees	739	725	1.9
Lemon trees	554	489	11.7

#### **15.3.4 Processing error**

Once data have been collected, a range of processes is performed before the production of final estimates (e.g. coding, editing, weighting and tabulating etc.). Errors that arise at these stages are called processing errors. Processing errors can be regarded as random errors, which increase the variance. This extra variance due to processing errors is incorporated to the variance of the parameters' estimates.

#### **15.3.5 Model assumption error**

No model is applied.

## **16. Timeliness and punctuality**

[Top](#)

### **16.1 Timeliness**

The results of the surveys should be transmitted before 1 October of the year following the survey year.

### **16.2 Punctuality**

The data are produced within the deadlines specified in EU Regulation.

## **17. Comparability**

[Top](#)

### **17.1 Comparability - geographical**

The definitions of variables are common throughout EU Member States, thus the survey produces fully comparable results among the EU countries.

#### **17.1.1 Assymetry for mirror flows statistics – coefficient**

### **17.2 Comparability over time**

The comparability of results for different years is ensured by means of using the same data collection methods and the same definitions of the survey variables. As a result data are comparable over time

## **18. Coherence**

[Top](#)

### **18.1 Coherence cross-domain**

The data are longitudinally coherent with other surveys, such as the Survey on the Structure of Agricultural and Livestock Holdings and the Annual Survey on Agriculture-Livestock.

#### **18.1.1 Coherence – sub annual and annual statistics**

The data are longitudinally coherent with other surveys, such as the Survey on the Structure of Agricultural and Livestock Holdings and the Annual Survey on Agriculture-Livestock.

### **18.1.2 Coherence – National Accounts**

Since the survey is conducted every five years, the results can be used by National Accounts only to cross-check the annual data sources used.

### **18.2 Coherence - internal**

All correlating variables are coherent with each other.

## **19. Cost and burden**

[Top](#)

The cost of the survey is approximately 29,400 euro.

The cost mostly pertains to the remuneration of external survey workers. No financial burden on the owners of the agricultural holdings that are surveyed.

## **20. Data revision**

[Top](#)

### **20.1 Revision policy**

The released data have undergone several checks and are not subject to revisions.

The survey follows the revision policy of ELSTAT:

[http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/ELSTAT\\_Revisions\\_Policy\\_22\\_5\\_2013\\_EN.pdf](http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/ELSTAT_Revisions_Policy_22_5_2013_EN.pdf)

### **20.2 Revision practice**

ELSTAT revision policy is followed.

## **21. Statistical processing**

[Top](#)

### **21.1 Source data**

The basic survey on fruit trees crops compiles statistics on area, production and number of fruit trees (orange trees, lemon trees, small citrus fruit trees, peach trees, apple trees, pear trees, apricot trees, cherry trees). An individual survey is conducted for every kind of the above trees and the corresponding data are tabulated and released.

The survey is a sample survey and the sampling method used is the single stratified random sampling. The unit of the survey is the agricultural holding under the specific kind of fruit tree that is surveyed. The agricultural holdings under fruit trees that are included in the survey are stratified as follows:

- by NUTS 1 (Regulation No 1337/2011 of the European Parliament and of the Council)
- by size class of the holding. In each region (NUTS 1), the holdings are stratified into L = 10 size classes, according to their size, determined by their area under the specific kind of fruit trees in the updated agriculture holding register, as follows:

Size class	Area under tree crops (in stremmas)
1	0.1 - 1.9
2	2.0 - 3.9
3	4.0 - 5.9
4	6.0 - 9.9
5	10.0 - 19.9

6	20.0 - 29.9
7	30.0 - 49.9
8	50.0 - 69.9
9	70.0 - 99.9
10	100.0 +

Holdings with trees belonging to class 10 are surveyed exhaustively.

The sampling fraction for the agricultural holdings by kind of fruit trees in the orchard survey 2012, is presented in the following table:

Fruit Tree	Sampling fraction (%)
Mandarin trees	3.4
Pear trees	5.5
Apple trees	3.4
Cherry trees	3.7
Orange trees	1.6
Apricot trees	4.7
Peach trees	3.5
Lemon trees	2.4

## 21.2 Frequency of data collection

Data are collected every five years.

## 21.3 Data collection

The data are collected by means of personal interviews with the owners of the holdings, which fall within the survey sample, on the basis of a specially designed questionnaire.

The designing of the questionnaire ensures that it satisfies both national and Community needs for statistical information. It covers all variables stipulated in EU Regulations.

The questionnaire was designed taking into account the needs of main users (Eurostat, Ministry of Rural Development and Food) as well as the needs of National Accounts Division of ELSTAT.

Data are collected by well-trained survey workers, thus ensuring correctness and efficiency of data collection.

## 21.4 Data validation

The data are validated by means of logical checks. During data processing any errors are identified and duly corrected. Special emphasis is placed on the errors that may have major impact on the results. After identifying the errors, they are further checked and cross-checked in cooperation with the owner of the holding in order to confirm that it is an error or it is just about an unusual price. At the same time, data are checked for completeness, accuracy and consistency of the correlating variables. Data processing and validation of data are carried out either during or after data entry.

The data are compared with the data of previous years and if major inconsistencies are identified, further checks are carried out.

## 21.5 Data compilation

After the conduct of automated checks, completeness and coherence checks and cross-checks, and with the use of appropriate imputation methods, the data of the sample are extrapolated for the total number of holdings.

More specifically, the survey characteristics are estimated as follows:

#### **a. Symbols**

If index  $i$  is the selection order of an agricultural holding with fruit trees or vines or cereals or other plants from the sampling frame in the stratum  $h$  (stratum=crossing of stratification criteria) and if  $y$  is one of the survey characteristics, the following can be defined:

$y_{hi}$  : is the value of the survey characteristic  $y$  of the holding with fruit trees in the order  $i$  and in the stratum  $h$ ,

$Y_h$  : the sum of the values of the characteristic  $y$  of all holdings with fruit trees covered by the survey and belonging to stratum  $h$ ,

$Y$  : the sum of the values of the characteristic  $y$  of all holdings with fruit trees covered by the survey. That is:

$$Y = \sum_h Y_h$$

where:

$N_h$  : is the number of all holdings with fruit trees covered by the survey and belonging to stratum  $h$

$n_h$  : is the initial sample size in the stratum  $h$

$m_h$  : is the number of respondent units in the stratum  $h$

$r_h$  : is the response rate for stratum  $h$  ( $r_h = \frac{m_h}{n_h}$ )

$w_{hi}$  : the extrapolation factor of the holding with fruit trees of order  $i$  belonging to stratum  $h$ . That is:

$$w_{hi} = 1 / (\text{Probability of the unit } i \text{ to be selected in stratum } h) \cdot r_h^{-1} = \frac{N_h}{n_h} \cdot \frac{n_h}{m_h} = \frac{N_h}{m_h}$$

#### **b. Estimation process**

The estimation of magnitudes  $Y_h$  and  $Y$  is based on the following formulas:

$$\hat{Y}_h = \sum_{i=1}^{m_h} w_{hi} \cdot y_{hi}$$

$$\hat{Y} = \sum_h \hat{Y}_h = \sum_h \sum_i w_{hi} \cdot y_{hi}$$

The variance estimation of  $\hat{Y}_h$  and  $\hat{Y}$  is based on the formula:

$$V(\hat{Y}_h) = \frac{N_h(N_h - m_h)}{m_h} S_h^2,$$

where:

$$S_h^2 = \frac{1}{m_h - 1} \left[ \sum_{i=1}^{m_h} y_{hi}^2 - \frac{\left( \sum_{i=1}^{m_h} y_{hi} \right)^2}{m_h} \right], \quad V(\hat{Y}) = \sum_h V(\hat{Y}_h)$$

The coefficient of variation (%) for total estimation  $\hat{Y}$  is calculated by the formula:

$$CV(\hat{Y}) = \frac{\sqrt{V(\hat{Y})}}{\hat{Y}} * 100$$

#### **21.5.1 Imputation – rate**

Not applicable.

### **21.6 Adjustment**

In cases of time series presenting high variability, corrections are made using moving averages.

#### **21.6.1 Seasonal adjustment**

Not applicable.

## **22. Comment**

[Top](#)