

Farm Structure Survey 2009/2010 Survey on Agricultural Production Methods 2009/2010

National Methodological Report (NMR)

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FARM STRUCTURE SURVEY 2009/2010
SURVEY ON AGRICULTURAL PRODUCTION METHODS 2009/2010
NATIONAL METHODOLOGICAL REPORT

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SUMMARY

The Agricultural Census (hereinafter AC) 2010 was the sixth AC in Estonia: the previous ones were conducted in 1919, 1925, 1929, 1939 and 2001. While in AC 2001 the national threshold was used, the new threshold was applied after that and the AC 2001 data were recalculated accordingly. On the basis of AC 2001 data, the Farm Register was composed – this is now regularly updated and used as a frame for all agricultural statistics surveys, including AC 2010. Before the start of the AC, the Farm Register was compared with all available administrative sources in order to be sure that all potential holdings were included and that there was no undercoverage.

AC 2010 was conducted from 1 September to 15 November 2010. The reference date was 1 September 2010. It covered all agricultural holdings which had at least one hectare of utilized agricultural land or where agricultural products were produced mainly for sale. The threshold can be considered as unchanged and all data are comparable with previous years and surveys.

The body responsible for AC was Statistics Estonia and the responsible department was the Agricultural Statistics Department. Besides the usual staff of the Agricultural Statistics Department, temporarily hired persons were engaged both in data collection and processing. Preparatory works were started in 2009 and works were completed according to the project plan; no delays occurred.

Two different modes were used for data collection: CAWI and CAPI. Two different channels were used for the CAWI mode. All legal persons and all natural persons who have joined Statistics Estonia's electronic data transmission environment eSTAT could submit data via eSTAT. If necessary, they could also deliver their data by mail or telephone. Natural persons who had not joined eSTAT could also submit their data via the Internet – through the personal survey channel – or, if they did not make use of this opportunity, they were visited by an interviewer with a laptop. Data about organic farming and rural development supports were obtained directly from the relevant registers.

Before AC 2010, the Farm Register included quite many holdings which had already finished their agricultural activity, and therefore AC 2010 was an important source for updating the register.

During data processing, compliance with validation rules was checked. In case of item non-response or errors, mainly follow-up interviews were used. The results of this AC have been compared with administrative data and results from other surveys and, based on this, the results of AC 2010 can be regarded as good.

All AC 2010 data as well as data about agricultural production methods were collected together in the form of a census; no samples were used.

1. CONTACTS

Contact organization	Statistics Estonia
Contact organization unit	Agricultural Statistics Department
Contact person	Eve Valdvee
Contact person's function	Project manager
Contact mail address	Endla 15, 15174 Tallinn, Estonia
Contact e-mail address	eve.valdvee@stat.ee

Contact phone number	+3726259397
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2. SURVEY METHODOLOGY

2.1 National legislation

There is no special national legislation on AC 2010. Statistics Estonia conducts statistical activities according to the Official Statistics Act and the official statistical programme which is approved by the Government of the Republic each year. The official statistical programme for 2010 was approved by the Government of the Republic order No 524 (03.12.2009). These two documents stipulate the purpose of AC, the list of data to be collected, the statistical units and respondents covered, their obligations, the reference date, etc. The Official Statistics Act also states the following:

- a) In the collection and processing of data in the course of an Agricultural Census, a producer of official statistics shall proceed from the requirements provided for in Regulation (EC) No 1166/2008.
- b) The respondents are required to answer all Census questions and give true and complete answers.
- c) In the production of official statistics, a producer of official statistics shall primarily use data collected in administrative records and other databases and at the request of a producer of official statistics, chief processors of databases are required to submit data collected in the administrative records.
- d) Data that permit direct or indirect identification of a statistical unit, thereby disclosing individual information, are confidential data. Persons who, in using data for the performance of their duties or for scientific purposes, have access to data that permit direct or indirect identification of a statistical unit, are required to ensure the use of data exclusively for statistical purposes and prevent their unlawful dissemination.

2.2 Characteristics and reference period

The characteristics of AC 2010 correspond to the list of characteristics in EC 1166/2008, and the definitions to those in EC 1200/2009.

Agricultural holding is a unit where there is at least one hectare of utilised agricultural area or where agricultural products are produced mainly for sale. In case of holdings with less than one hectare of utilised agricultural area, the physical threshold was used in order to determine potential holdings producing mainly for sale. The physical threshold was used if there was no information about products produced for sale. The threshold was as follows: at least 3 cattle; 10 pigs, sheep or goats; 10 swarms of bees or 100 heads of poultry; 0.5 ha of fruit and berry plantations; 0.3 ha of fresh vegetables; 0.2 ha of nursery; 0.01 ha of outdoor flowers, crops under glass or arable land seeds.

Some of the characteristics from the list in EC 1166/2008 were not included into AC 2010, because they are not existing (NE) in Estonia (the list is presented in Annex 1).

Very few national characteristics were collected – pursuant to the Official Statistics Act, the AC included some data which are not mentioned in EC 1166/2008 but are necessary for internal purposes. These were the following:

- 1) first name and surname, personal identification code and contact details of the holders of agricultural holdings;
- 2) detailed data on agricultural crops with respect to the holdings that belong to the sample of the statistical action “crop farming”;
- 3) data supporting the quality of Census data.

The reasons for adding these data were technical: to enable smooth data collection and processing. Detailed data about agricultural crops with respect to the holdings that belong to the sample of the statistical action “crop farming” were added in order to avoid duplicate data collection for the statistical action “crop farming”

The reference date was 1 September 2010 and the reference periods in accordance with EC 1166/2008. The threshold can be considered as unchanged and all data are comparable with previous years and surveys. The 7th version of the handbook was used in implementing FSS and SAPM definitions. There are no differences between the national and EU concepts.

Two different modes were used for data collection: CAWI and CAPI. Two different channels were used for the CAWI mode. Several types of questionnaires were used. For respondents who submitted their data through the electronic data transmission channel eSTAT, one type of questionnaires were prepared (in table form, as usual in other surveys). Separate questionnaires were prepared for natural and legal persons. The questionnaires were also available on the website of Statistics Estonia.

For other respondents, another type of questionnaire was prepared (used in the personal survey web channel and by interviewers). As all collected characteristics were the same in all the questionnaires and there were differences only in design, only the interviewers' printed version is included in the annex (without instructions and questions related to pre-filled fields) (see Annex 2). This type of questionnaire was also translated into Russian and English in order to avoid possible language problems during data collection.

2.3 Survey organization

The body responsible for AC was Statistics Estonia and the responsible department was the Agricultural Statistics Department. Several other departments participated in the project, fulfilling the following main tasks: Data Collection Department (data collection); Data Processing Systems Department (IT); Methodology Department (description of electronic questionnaires with special software); Marketing and Dissemination Department (promotion of the census, dissemination), General Department (administration).

Besides the usual staff of the Agricultural Statistics Department, temporarily hired persons were engaged. The data collection team included 7 temporarily hired instructors and 132 interviewers; in the Agricultural Statistics Department, 3 persons were hired in temporary positions.

A pilot survey for testing the questionnaires was not organized.

A comprehensive information campaign was organized to promote the AC. The following main activities were organized:

1. AC information was published on the website of Statistics Estonia.
2. Seven press releases were published by Statistics Estonia and, on the basis of these, Census information was published in several media channels (newspapers, radio, TV).
3. Information about the Census was sent to partners such as the Agricultural Registers and Information Board (hereinafter ARIB), Agricultural Board, Ministry of Agriculture, Estonian Farmers' Federation and local municipalities who disseminated information through their channels.
4. Personal letters with AC booklets were sent to all holders in the census list.

2.4 Calendar (overview of work progress)

Key activities of AC 2010	Time/period
Preparatory works	
Working out the strategy, working plan and budget	01.01.2009-14.05.2009
Preparing questionnaires, instructions and training materials; describing questionnaires with special software; creating and testing special software; composing census list and pre-filled data; preparing data collection; hiring staff; promotion etc.	01.01.2009-31.08.2010
Data collection and training field staff	
Training courses for instructors	23.08-27.08.2010
Data collection from legal persons	01.09-15.11.2010
Data collection from natural persons through web	01.09-10.09.2010
Training courses for interviewers	06.09-10.09.2010
Data collection from natural persons by interviewers	15.09-15.11.2010
Data collection from administrative registers	01.07.2010-21.01.2011
Data processing	
Data entry (if received by mail), data editing and output tables	01.09.2010-14.12.2011
Dissemination	
Preliminary results available on the website	17.12.2010
Final results available on the website	15.12.2011
Formatting, codification and validation of data and delivery to Eurostat	01.11.2011-31.03.2012

The project plan was followed, no delays occurred.

2.5 Population and frame

The target population includes all holdings that satisfy the definition of the statistical unit of the survey. The statistical unit was an agricultural holding that had at least one hectare of utilized agricultural land or where agricultural products were produced mainly for sale. The definition and threshold are exactly in accordance with 1166/2008. The threshold can be considered as unchanged and all data are comparable with previous years and surveys.

The number of holdings in the frame was 28,848. The frame was the Statistical Farm Register which is regularly updated on the basis of several administrative and statistical sources:

- 1) Register of Agricultural Animals;
- 2) Register of Agricultural Support and Agricultural Parcels together with annual land use data;
- 3) Organic Farming Register;
- 4) Business Register for Statistical Purposes of Statistics Estonia (frame for business statistics; it is based on the Commercial Register, the Non-Profit Institutions and Foundations Register, Register of Taxable Persons and the State Register of State and Local Government Agencies);
- 5) Population Register;
- 6) Data received by official agricultural statistics surveys.

On the basis of these sources, several data are updated in the Statistical Farm Register. The registers are also sources for adding new holdings. Holdings are deleted only when legal persons are deleted from the Commercial Register or when the holder informs us that they have ceased the agricultural activities. Updating the register on the basis of administrative sources is quite complicated as the units (as well as the ID numbers) in the Farm Register and

other registers are different. In the Farm Register, the unit is an agricultural holding, but in other sources, the unit is a natural and/or legal person.

For the preparation of the census list, the most up-to-date data were received from registers. At first, the reference date was 01.07.2010, but later on new holdings (which were entered into the registers between this date and the census reference date) were also added to the census list.

2.6 Survey design

All AC 2010 data as well as data about agricultural production methods were collected together in the form of a census; no samples were used.

2.7 Sampling, data collection and data entry

2.7.1 Drawing the sample – for SAPM and/or OGA, if applicable

Not applicable as samples were not used.

2.7.2 Data collection and data entry

Two different modes were used for data collection: CAWI and CAPI. Two different channels were used for the CAWI mode. All legal persons and all natural persons who have joined Statistics Estonia's electronic data transmission environment eSTAT could submit data via eSTAT (entry of data online by holder). If necessary, they could deliver their data also by mail or telephone.

Natural persons who had not joined eSTAT could also submit their data via the Internet – the personal survey channel – or, if they did not make use of this opportunity, they were visited by an interviewer (electronic data capture during a personal interview). The general helpdesk of Statistics Estonia was available during the census.

2.7.3 Use of administrative data sources

On the basis of the Statistical Farm Register, the identification and contact details of the holding and holder (name of the holder, address, telephone, e-mail, etc.) were pre-filled in the AC questionnaires. These details were checked by the holders and corrected if necessary.

From administrative sources, the following data were used in AC 2010:

1) Organic Farming Register

The aim of the Organic Farming Register is the collection of data about persons engaged in the organic production or handling of agricultural produce, and the systemization of this data in order to guarantee efficient surveillance and consumer protection. The chief processor of the Organic Farming Register is the Ministry of Agriculture and the authorised processor of the register is the Agricultural Board. The main legal act is EC No 834/2007 on the EU level and the Organic Farming Act (adopted on 20 September 2006) on the national level.

Data received from the Organic Farming Register refer to agricultural producers – persons who are engaged in the production of agricultural produce, and the preparation and marketing of agricultural produce produced in the same enterprise or a part thereof. The data were linked with holdings through client ID, personal ID code and commercial registry code. The following characteristics were taken directly from this source and not asked from holdings: 1.03.02.01; 1.03.02.02; 1.03.02.03; 1.03.02.03.01; 1.03.02.03.02; 1.03.02.03.03; 1.03.02.03.05; 1.03.02.03.06; 1.03.02.03.07; 1.03.02.03.08; 1.03.02.03.99; 1.03.02.04.01; 1.03.02.04.02; 1.03.02.04.03; 1.03.02.04.04 and 1.03.02.04.99.

In case of land use data (characteristics 1.03.02.01; 1.03.02.02; 1.03.02.03; 1.03.02.03.01; 1.03.02.03.02; 1.03.02.03.03; 1.03.02.03.05; 1.03.02.03.06; 1.03.02.03.07; 1.03.02.03.08; 1.03.02.03.99), there are no problems with the reference time as these are 2010 data. It is a little problematic that the register uses a different land use classification scheme than required by 1200/2009. So organic farming land use data had to be compared with general land use data provided by holders during the census; any inconsistencies were corrected.

In case of animals (characteristics 1.03.02.04.01; 1.03.02.04.02; 1.03.02.04.03; 1.03.02.04.04 and 1.03.02.04.99), there are, on the contrary, no problems with definitions, but the data received from the register referred to the day of inspection. So these data were also compared with the general data about animals provided by holders during the census and any inconsistencies were corrected.

The reliability, accuracy and coherence of the organic farming data obtained from the Organic Farming Register have not been checked by Statistics Estonia, but the Agricultural Board exercises regular state supervision of their data.

The data in the Organic Farming Register were also used for updating the frame.

2) Register of Agricultural Support and Agricultural Parcels together with annual land use data

The aim of the Register of Agricultural Support and Agricultural Parcels is to gather, process and preserve data about support granted through the implementation of measures related to the common agricultural policy, state measures for organizing rural life and the agricultural market, and measures for organizing the fishing market. The chief processor of the Register of Agricultural Support and Agricultural Parcels is the Ministry of Agriculture and the authorized processor of the register is the Agricultural Registers and Information Board. The main legal act is the European Union Common Agricultural Policy Implementation Act (adopted on 11 November 2009).

Data received from the Register of Agricultural Support and Agricultural Parcels refer to persons participating in the measures related to the common agricultural policy. The data were linked with holdings through client ID, personal ID code, commercial registry code and, if necessary, also through other available information (names of managers and partners, addresses, etc.). In order to facilitate the linking of data about subsidies, a special question was added to the questionnaire asking respondents to specify in whose name (besides the holder) the holding had received rural development aid. So, in case of the data items that could not be matched through codes, the linking had to be done manually by analyzing individual data.

The following characteristics about rural development measures were taken directly from this source and not asked from the holdings: 7.01.01; 7.01.02; 7.01.03; 7.01.05; 7.01.06; 7.01.08; 7.01.08.01; 7.01.09; 7.01.10 and 7.01.11. The definitions and reference dates are those required in EC 1166/2009.

The reliability, accuracy and coherence of data about rural development aid obtained from the Register of Agricultural Support and Agricultural Parcels have not been checked by Statistics Estonia, but the Agricultural Registers and Information Board exercises regular state supervision of their data. The possible linking errors were analyzed and corrected by comparing data about rural development aid with other data provided by the holder during the census (land use, animals, grazing, etc).

Together with their aid application, all persons who apply for subsidies have to present to the Agricultural Registers and Information Board annual data about their total land use classified by crops. These data were still asked from holders in the AC questionnaires but pre-filled in the electronic questionnaires in case of those holders who had already presented this information to ARIB. The holders could and had to correct the data if needed (in some cases, explanations had to be provided). The list of land use characteristics used for pre-filling included the following: 1.03.01; 2.01; 2.01.01; 2.01.01.01; 2.01.01.03; 2.01.01.04; 2.01.01.05; 2.01.01.99; 2.01.02; 2.01.02.01; 2.01.03; 2.01.05; 2.01.06; 2.01.06.02; 2.01.06.04; 2.01.06.07; 2.01.06.08; 2.01.06.09; 2.01.06.10; 2.01.06.12; 2.01.07; 2.01.07.01; 2.01.08; 2.01.08.01; 2.01.09; 2.01.09.01; 2.01.09.02; 2.01.09.02.01; 2.01.09.02.02; 2.01.09.02.99; 2.01.10; 2.01.12; 2.03; 2.03.01; 2.04; 2.04.01; 2.04.01.01; 2.04.01.01.01; 2.04.01.02 and 2.04.05.

The reference time for these data was 2010 (crops harvested for the 2010 yield including winter crops sown in 2009). It was a little problematic that the register uses a different land use

classification scheme than required by 1200/2009. Therefore, the differences were explained in the questionnaires and holders had to correct the data accordingly.

The data in the Register of Agricultural Support and Agricultural Parcels were also used for pre-filling (in the electronic questionnaires) the numbers of cadastral units, which were later used to determine the co-ordinates of the main location of the holding (see also subsection 2.8.2). The data of the Register of Agricultural Support and Agricultural Parcels were also used for updating the frame.

3) Register of Agricultural Animals

The aim of the Register of Agricultural Animals is to prevent and eliminate contagious animal diseases and to protect people from diseases and illnesses shared with and spread by the animals. The chief processor of the Register of Agricultural Animals is the Ministry of Agriculture and the authorized processor of the register is ARIB. The main legal act is the Infectious Animal Disease Control Act (adopted on 16 June 1999).

Data received from the Register of Agricultural Animals refer to keepers of an animal (persons who own an animal or who, on the basis of a commercial lease or other relationship with the owner of the animal, are engaged in keeping an animal). The data were linked with holdings through client ID, personal ID code, commercial registry code and, if necessary, also through other available information.

Similarly to land use data, the data about agricultural animals were also pre-filled in the electronic questionnaires in case of holders whose data were available in the Register of Agricultural Animals. Similarly to land use data, these data were also asked from holders in the questionnaires and holders had to correct the data if needed (in some cases, explanations had to be provided).

The list of livestock characteristics used for pre-filling included the following: 3.01; 3.02; 3.02.01; 3.02.02; 3.02.03; 3.02.04; 3.02.05; 3.02.06; 3.02.99; 3.03; 3.03.1; 3.03.01.01; 3.03.01.99; 3.03.02; 3.03.02.01; 3.03.02.99; 3.04; 3.04.01; 3.04.02; 3.04.99 and 3.07. Data about equidae referred only to those to whom subsidies had been paid (others were not linkable with holdings). The reference dates of all data were earlier, as the data were received on 1 July 2010 and also due to the principles of the handling register.

Still, these differences in definitions and reference dates were not a problem as the data were only used for pre-filling and still asked from holders. The differences in definitions and reference dates were explained to holders and they corrected the data if needed. This type of pre-filling also allowed a comparison with the register already during the data collection.

The reliability, accuracy and coherence of data about agricultural animals obtained from the Register of Agricultural Animals have not been checked by Statistics Estonia, but ARIB exercises regular state supervision of their data.

The data of the Register of Agricultural Animals were also used for pre-filling (in the electronic questionnaires) the numbers of cadastral units of livestock buildings, which were later used to determine the co-ordinates of the main location of the holding (see also subsection 2.8.2). The data of the Register of Agricultural Animals were also used for updating the frame.

4) Environmental Register

The aim of the Environmental Register is to retain and process data regarding natural resources, natural heritage, the state of the environment, and environmental factors; and to provide information. The chief processor of the Environmental Register is the Ministry of the Environment and the authorized processor of the register is the Estonian Environment Information Centre. The main legal act is the Environmental Register Act (adopted on 19 June 2002).

Based on the information received from the Ministry of the Environment, genetically modified crops (2.06.04) were not grown in Estonia in 2010. The information received was inserted directly into the survey data.

2.8 Specific topics

2.8.1 Common land

There is no common land in Estonia. Even if some holdings graze their animals in the same area, they can say which part of this area belongs to them.

2.8.2 Geographical reference of the holding

A combined method was used to determine the geographical references of the holdings.

On the basis of ARIB's GIS data about land use and/or livestock buildings, the AC electronic questionnaires were pre-filled with the register numbers of the cadastral units where the main locations of the holdings were expected to be. These register numbers of cadastral units were pre-filled only if the settlement where the holding is located was the same as was known on the basis of the Farm Register. These register numbers of cadastral units were checked by holders during the census and new/corrected numbers were added if needed. Holders who were visited by interviewers could also, together with the interviewer, mark the main location of the holding on the electronic map, using special software. If the locations were not marked on the map, these were fixed to the centres of the cadastral units. In a few cases where the location was known only on the level of settlement, the location was fixed to the centre of the settlement.

The geo-coordinates of the holdings were transmitted to the reference system ETRS89 and rounded to the grid of 5x5 km, taking into account NUTS level 3 regions. If there was only one holding in the grid, the data were added to another grid. As a result, each grid contains at least two holdings. The centres of the grids were delivered to Eurostat. In the grids along the boundaries, the centres have been moved so that each holding is located in a real NUTS 3 region.

2.8.3 Volume of water used for irrigation

The question about volume of water used for irrigation was included in the questionnaire. If the holder could not estimate this volume, they were asked for a general description of how often and how much irrigation was used. After analyzing the data received, it was decided that for holdings where irrigation was used but the volume of water could not be estimated, imputation on the basis of received data would be used. Thus, the irrigated crops were divided by type of crop, the average volumes per hectare were calculated and the total volume of water used was imputed, taking into account the average volumes and area sizes of the irrigated crops.

The amount of water does not include water used in greenhouses and kitchen gardens (the areas of these constituted 0.004% and 0.181% (respectively) of utilized agricultural area).

2.8.4 Other issues

There will be an improvement in the future as concerns ARIB's land use data: ARIB will harmonize the classification scheme of land use with that used in statistics.

2.9 Response-burden policy

During training courses, interviewers were trained how to collect data, including how to handle difficult respondents. These topics are also covered in the manual.

To obtain the AC data, several methods were used: periodic written reminders by e-mail and/or letters and also reminder calls. If necessary, some data were also collected through telephone interviews. Holders who refused to present data to the interviewer were contacted by the heads of the regions and, if necessary, also by other census staff. The addresses and telephone numbers were updated/corrected, if needed, on the basis of several sources (including the Population Register and ARIB data).

At the end of the data collection period, precepts informing about possible penalties (to force data delivery) were sent to all holdings that had not responded but were registered in the Commercial Register. After that the responses were received. The number and importance of

natural persons who did not respond and were not registered in the Commercial Register, but still manage some lands or animals, was so small that these data were imputed and no legal action was taken.

In case of item non-response, follow-up telephone interviews were used.

3. ACCURACY AND RELIABILITY OF THE DATA COLLECTED

3.1 Data processing, analysis and estimation

3.1.1 Estimation and sampling errors – for SAPM and/or OGA, if applicable

Not applicable as samples were not used.

3.1.2 Non-sampling errors (i)

Coverage errors

The frame over-coverage was 9,235 units (32% of the frame). These units were included into the frame, but did not belong to the target population. Mostly they had finished their agricultural activity or their agricultural activity had decreased below the threshold. The reason for over-coverage is that, on the one hand, there are practically no sources for such information and, on the other hand, the changes in the economy are rapid. Another reason for frame errors was that several persons from one holding had registered themselves in different registers but completed their AC questionnaire together (i.e. a single questionnaire). This possibility was taken into account already in the planning of data collection principles. The information received was valuable for the Statistical Farm Register.

Frame under-coverage could be considered as non-existent. The frame was updated on the basis of all available sources and even during the census some holdings were added to the census list. Contact errors did not occur either – there were several sources available and contact details were corrected if necessary.

Measurement errors

In order to minimize measurement errors, the main part of the information was collected by trained interviewers. At the same time, the questionnaires were carefully designed and in an electronic format, including arithmetical and logical checks. So part of the errors were already corrected during data collection. The analysis of edits (as well as item non-responses) is complicated as part of the data were collected differently than they were later processed (for example, data on managers were not duplicated under other labour force during collection; type of manager was not asked from legal persons but added during processing, etc). These types of differences have been eliminated before comparison. The total share of edited questionnaires was 33.1%. This editing rate also includes unit and item non-responses (including irrigation water amount). All types of errors were corrected during data processing.

Comparisons of both microdata and aggregated data were made with the Register of Agricultural Animals, Register of Agricultural Support and Parcels (including land use data from 2010), Organic Farming Register, crop production survey and animal surveys.

Non-response errors

There were only very few holdings who did not complete the questionnaires at all. Unit non-response was 163 units, i.e. 0.83% of the total number of holdings (0.6% of the Census list). These units were imputed. Still, there were much more holdings whose questionnaires included only part of the necessary information and where part of the fields had not been completed. Item non-responses were corrected by contacting the holder again. Only the amount of water used was imputed (see the ratio in Annex 3 and the description of methodology in subsection 2.8.3). The examples of characteristics with the most item non-responses are presented below:

Characteristic	Item non-response rate
Permanent grassland temporarily not used for production purposes (B_3_3)	9.0%

Laying hens on straw-beds (M_5_3_1)	8.6%
Other land (B_5_3)	8.0%
Stanchion-tied stable — with solid dung and liquid manure (M_5_1_1)	2.7%
Fallow land subject to the payment of subsidies (B_1_12_2)	2.4%
Pigs on straw-beds (M_5_2_3)	2.0%
Fallow land (B_1_12_1)	2.0%

Item non-responses in case of items concerning utilized agricultural area are partly related to the fact that ARIB has used a classification scheme different from that used in statistics. For example, 'permanent grassland' was pre-filled but 'permanent grassland temporarily not used for production purposes' was not, as these data were not available from ARIB. Green fallows were sometimes registered in ARIB as leguminous plants. Holders did not always correct the pre-filled data. Such mistakes have mainly been discovered through a comparison with the crop production survey. According to some holders, other land is not important, but of course holders who live in a holding and have animals also have some other land (the comparison was done with previous data). Answering questions about animal houses was difficult for some holders and there was a need to correct the data. These corrections seem as item-non-responses when analyzed separately but actually are changes between two types of animal houses. Some holders understood that an animal house with laying hens on straw beds can be classified this way only if part of the floor is arranged as a pit covered with slats, and reported their laying hens in other type of housing. In case of animal houses (both for cattle and pigs), some holders understood that if the floor was covered with a thick layer of litter but several types of animals were kept in one house, other type of animal house had to be reported.

3.1.3 Methods for handling missing or incorrect data items

Data were checked and edited by the Agricultural Statistics Department of Statistics Estonia with the help of special data editing software. Due to several arithmetical and logical checks, it is practically impossible for processing errors to exist in the data.

Due to missing or incorrect data items, follow-up interviews (mainly by phone or e-mail) were quite common and widely used. In case of item non-responses and incorrect data items, the holders were contacted again.

Imputation was used only on a very small scale and in general only in case of unit non-response (the holders could not be contacted or they refused). The ratios of the imputed values are presented in Annex 3. The cold-deck imputation method was mainly used for imputation. Land use data and data on livestock were imputed only on the basis of the current year's administrative data. In case of other characteristics, data from the Farm Structure Survey 2007 were used. If these data were missing, the hot-deck imputation (nearest neighbour) method was used for imputation.

3.1.4 Control of the data

As the majority of AC data were collected through electronic questionnaires that included arithmetical and logical controls, the first stage of data checking was already done during data collection. Several types of controls were used, including controls to verify that the answers provided were not contradicting each other and that the questionnaires were completed correctly and in full. The controls also included almost all the controls specified in the Data Suppliers Manual. There were even some controls to identify inconsistencies compared to administrative data. The controls were included both in the interviewers' laptops and in the web questionnaires. In case of soft errors or warnings (not necessarily errors but unusual situations), explanations had to be entered, but hard errors had to be corrected. Only errors in the eSTAT web questionnaires could be left for later correction and so holders sometimes quitted without correcting these. Still, interviewers had to correct errors on the spot together with the holder.

All the data collected and entered through different methods were finally checked at Statistics Estonia by a special program, which again included all the controls in the Data Suppliers Manual. First, all the same checks were performed as during the data collection and then additional checks were used, including comparisons with other surveys.

3.2 Evaluation of results

The results of AC 2010 can be regarded as good. AC 2010 data were compared with other sources both on the micro- and macrodata level. Comparisons were made with the Register of Agricultural Animals, Register of Agricultural Support and Parcels (including land use data from 2010), Organic Farming Register, crop production survey and animal surveys.

The differences between microdata were clarified and also corrected if needed. If necessary, the holders were contacted for additional information. The differences occurred due to differences in definitions, units and methodology.

The differences with ARIB registers on macrodata level were caused by differences in definitions and methodology (not all holdings are applying for subsidies; there is a threshold in AC; not all animals have to be registered in the Register of Agricultural Animals, or they have to be registered within a certain time period, etc.). For example, ARIB's land use data includes the data of 16,440 subsidy applicants (15.6% less than the number of agricultural holdings having agricultural land in AC 2010) with 907,868 hectares (3.6% less than the total utilized agricultural area in AC 2010). The number of cattle in the Register of Agricultural Animals was 0.3% larger than the number of cattle in AC 2010.

In case of organic farming data, there were practically no differences between AC 2010 and the Organic Farming Register. There were also practically no differences with the crop production survey. Differences with animal surveys were small and caused by different reference dates.

A comparison with the Estonian Labour Force Survey was not made due to fundamental methodological differences.

	Survey		
	FSS (excl. OGA* in case of sample survey)	OGA (if sample survey)	SAPM** (if sample survey)
Initial list of units	28,848	NA	NA
Initial sample	NA	NA	NA
Number of holdings with completed questionnaires (incl. eventually imputed questionnaires):	19,613	NA	NA
Number of units under the threshold applied	NA (information was not collected)	NA	NA
Holdings with ceased activities:	9,235 (this number also includes holdings under the threshold and those managed by someone else)	NA	NA
- (If information is available) of which definitely ceased, i.e. the land is abandoned	NA	NA	NA
- (If information is available) of which holdings with change of the manager	NA	NA	NA
Unit non-response:	163	NA	NA

- Refusals – not corrected	0	NA	NA
- Refusals – corrected (imputed)	163 (includes all unit non-responses)	NA	NA
Number of records transferred to Eurostat	19,613	NA	NA
Common land units (A_2_1)	0	NA	NA

*Other gainful activity

** Survey of Agricultural Production Methods

Comments on major trends from FSS 2007 to FSS 2010. Comments are given in case there is a change of more than 10% at the national level between FSS 2007 and FSS 2010.

	From 2007 FSS	From 2010 FSS	Difference in %	Comments
Number of holdings;	23,336	19,613	-16%	The number of holdings has continuously decreased since 2001 as smaller holdings cease their activity due to economic and social reasons.
UAA (A_3_1), ha;	906,833	940,930	3.8%	
Arable land, ha;	626,947	640,038	2.1%	
Permanent grassland (B_3), ha;	273,388	296,065	8.3%	
Permanent crops (B_4), ha;	3,195	3,121	-2.3%	
Wooded area (B_5_2), ha;	229,651	223,967	-2.5%	
Unutilized agricultural area (B_5_1), ha;	31,819	26,097	-18%	Unutilized agricultural area has decreased as smaller holdings have ceased their activity and their unutilized agricultural area is now used by other holdings.
Fallow land (B_1_12_1 + B_1_12_2), ha;	17,580	42,157	139.8%	Fallow land has increased as holdings use more green fallow to improving soil quality.
LSU in LSU;	313,200	306,283	-2.2%	
Cattle (C_2), head;	253,230	241,025	-4.8%	
Family labour force – in persons;	50,920	39,690	-22.1%	Family labour force has decreased due to the disappearance of smaller and less-efficient holdings as well as the decrease in the use of family labour force in existent holdings.
Family labour force – in AWU;	19,452	13,343	-31.4%	AWUs of family labour force have decreased due to the disappearance of smaller and less-efficient holdings as well as the decrease in the use of family labour force in existent holdings.
Non-family labour force – in persons;	14,505	12,921	-10.9%	Non-family labour force has decreased due to the economic crisis and a decrease in the number of part-time workers.
Non-family	12,615	11,773	-6.7%	

labour force – in AWU			
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3.3 Data revision policy

Some preliminary results were published one month after the end of the data collection period – only data about the number of holdings and utilized agricultural area. The final results were published one year after the preliminary results – the number of holdings was revised by -0.6% and utilized agricultural area by +0.2%. Further data revisions are not planned.

4. ACCESSIBILITY AND PUNCTUALITY

4.1 Publications

The preliminary data of AC 2010 were published on 17 December 2010 in the form of a press-release (only the number of holdings and utilized agricultural area by size classes). The final results of all data together with metadata were published on 15 December 2011 in the statistical database of Statistics Estonia (available at www.stat.ee). Simultaneously with the publication of the data in the statistical database, a press-release was published.

Microdata files together with the methodological report were delivered to Eurostat within the first quarter of 2012. Scientists can, under special contracts, use confidential microdata for research purposes at the safe centre on Statistics Estonia's premises or using remote access. They can make analysis but only an employee of Statistics Estonia can send the research results to the user's e-mail address after the disclosure control has been performed.

The AC publication (methodology included) will be published in the third quarter of 2012 (electronically at www.stat.ee and approximately 120 printed copies).

4.2 Timeliness and punctuality

The number of months from the last day of the reference period to the day of publication of the first results was 3.5 months (one month after the end of data collection). The number of months from the last day of the reference period to the day of publication of the final results was 15.5 months (13 months after the end of data collection).

Data were published according to the time schedule, no delays occurred.

5. CONFIDENTIALITY AND SECURITY

The data that permit direct or indirect identification of a statistical unit, thereby disclosing individual information, are confidential data. In the performance of any statistical actions, Statistics Estonia ensures the organizational, information technology related and physical protection of data. Persons who, in using data for the performance of their duties or for scientific purposes, have access to data that permit direct or indirect identification of a statistical unit, are required to ensure the use of data exclusively for statistical purposes and prevent their unlawful dissemination.

A producer of official statistics disseminates data collected for the production of official statistics for public use only in a form that precludes the possibility of direct or indirect identification of a statistical unit. The data are published and transmitted without characteristics that permit the identification of the respondents, and are classified into groups of at least three holdings. The data are also not published if the share of data relating to a particular holding in the aggregate data is too high.

Scientists can, under special contracts, use confidential micro-data for research purposes at the safe centre on Statistics Estonia's premises or using remote access. They can make analysis but only an employee of Statistics Estonia can send the research results to the user's e-mail address after the disclosure control has been performed.

LIST OF NON-EXISTING CHARACTERISTICS OF FSS AND SAPM IN ESTONIA IN 2010

1. 1.02.01.02 One or more natural persons who is/are a partner, where the holding is a group holding – non-existing characteristic.
2. 1.03.02.03.04 Organic sugar beet (excluding seed) – not grown for the production of sugar.
3. 1.03.02.03.09 Organic citrus plantations – not grown.
4. 1.03.02.03.10 Organic olive plantations – not grown.
5. 1.03.02.03.11 Organic vineyards – not grown.
6. 2.01.01.02 Durum wheat – not grown.
7. 2.01.01.06 Grain maize – not grown for grain.
8. 2.01.01.07 Rice – not grown.
9. 2.01.04 Sugar beet (excluding seed) – not grown for the production of sugar.
10. 2.01.06.01 Tobacco – not grown.
11. 2.01.06.03 Cotton – not grown.
12. 2.01.06.05 Sunflower – not grown.
13. 2.01.06.06 Soya – not grown.
14. 2.01.06.11 Other fibre crops – not grown.
15. 2.01.06.99 Other industrial crops not mentioned elsewhere – not grown.
16. 2.01.11 Other arable land crops – not grown.
17. 2.03.02 Rough grazings – not used.
18. 2.04.01.01.02 Fruit of subtropical climate zones – not grown.
19. 2.04.01.03 Nuts – not grown.
20. 2.04.02 Citrus plantations – not grown.
21. 2.04.03 Olive plantations – not grown.
22. 2.04.03.01 Normally producing table olives – not grown.
23. 2.04.03.02 Normally producing olives for oil production – not grown.
24. 2.04.04 Vineyards, of which normally producing – not grown.
25. 2.04.04.01 Quality wine – not grown.
26. 2.04.04.02 Other wines – not grown.
27. 2.04.04.03 Table grapes – not grown.
28. 2.04.04.04 Raisins – not grown.
29. 2.04.06 Other permanent crops – not grown.
30. 2.04.07 Permanent crops under glass – not grown.
31. 2.06.03 Energy crops – non-existing characteristic as specific aid for energy crops was not paid in 2010 and set-aside area does not exist in Estonia either.
32. 2.06.03.01 Energy crops (for the production of biofuels or other renewable energy) of which on set-aside area – set-aside area does not exist in Estonia.
33. 3.99 Livestock not mentioned elsewhere – non-existing characteristic.
34. 7.01.04 Meeting standards based on Community legislation – not paid.
35. 7.01.07 Payments linked to the Water Framework Directive – not paid.
36. 4.02 Common land grazing – common land does not exist in Estonia.
37. 4.02.01 Total number of animals grazing on common land – common land does not exist in Estonia.
38. 4.02.02 Amount of time for which animals are grazing on common land – common land does not exist in Estonia.
39. 8.01.02.01 Irrigated area: rice – rice is not grown.
40. 8.01.02.06 Irrigated area: sugar beet (excluding seed) – not grown.
41. 8.01.02.08 Irrigated area: sunflower – not grown.
42. 8.01.02.14 Irrigated area: citrus plantations – not grown.
43. 8.01.02.15 Irrigated area: olive plantations – not grown.
44. 8.01.02.16 Irrigated area: vineyards – not grown.
45. 8.02.01 Surface irrigation (flooding, furrows) – irrigation method not used.

ANNEX 2

AGRICULTURAL CENSUS 2010. QUESTIONNAIRE

PART A. GENERAL DATA

A0	<i>Who is going to answer the questions?</i> 1 Holder 2 Representative authorized by the holder 3 Other
A1.1A A1.2A	Does the holding have in its possession at least one hectare of utilized agricultural area? Utilized agricultural area includes arable land, fruit and berry plantations, nurseries, kitchen garden and permanent grassland, incl. maintained area eligible for the payment of subsidies. 1 Yes → A5 2 No → A1.1B
A1.1B A1.2B	Does the holding have in its possession less than one hectare of utilized agricultural area or no land at all, but agricultural products are produced or livestock, poultry and bees are kept mainly (more than a half) for sale? 1 Yes → A5 2 No → A2
A2 ARIB	If the lands or animals of the holding are registered in ARIB or the Organic Farming Register, to whom have you rented these? Please enter the names and all the contact details you know.
A3 BR	If the holder is registered in the Commercial Register, what is the main activity?
A4	Please provide your contact details in case it will be necessary to specify some data. DIRECTION If A0=1 → A4.2 name and surname..... phone..... . e-mail END
A4.1 A4.2 A4.3	

A5 A5.1 A5.2 A5.3 A5.4 A5.5 A5.6 A5.7 A5.8 A5.9 A5.10 A5.11 A5.12	<p>Please provide your contact details.</p> <p>name.....</p> <p>... surname</p> <p>.....</p> <p>DIRECTION</p> <p><i>If A5.1 and A5.2 have not been corrected → A.5.4</i></p> <p>personal identification code.....</p> <p>.....</p> <p>commercial registry code</p> <p>.....</p> <p>business name.....</p> <p>Contact address:</p> <p>county, local municipality and settlement</p> <p>.....</p> <p>street/farm</p> <p>.....</p> <p>house number</p> <p>.....</p> <p>apartment number</p> <p>.....</p> <p>phone</p> <p>.....</p> <p>e-mail</p> <p>.....</p>
A6, A7	<p>In which county, local municipality and settlement does the holding's main activity take place?</p> <p>county</p> <p>.....</p> <p>local</p> <p>municipality.....</p> <p>settlement.....</p> <p>.</p>

PART B. LAND USE

BT	<p>The following questions are about land use. All data should refer to the year 2010, incl. winter crops sown in 2009. Specify the sizes of areas (excl. mushrooms' area) in hectares, with accuracy 0.01 if possible.</p>
B1 	<p>What is the area of your land tenure?</p> <p>Land tenure includes land in the possession of the holding (except the land leased out), leased or other land tenure, incl. utilized and unutilized agricultural area, wooded area and other land. Land tenure does not include land leased out or given to others for use.</p> <p>_____</p>
B2 	<p>What is the area of your utilized agricultural land?</p> <p>Utilized agricultural area is the area utilized in the reference year for the production of agricultural products or the area not utilized but only maintained in good agricultural and environmental condition (incl. arable land, permanent grassland, fruit and berry plantations, nurseries and kitchen gardens). Utilized agricultural area also includes wooded areas where forest-tree nurseries are grown for sale.</p> <p>_____</p>
BX1	<p>DIRECTION</p> <p><i>If B2 = 0 → B5A</i></p>
B3 B3.1 B3.2 B3.3	<p>Which part of your utilized agricultural area is</p> <p>land in your ownership _____ </p> <p>leased for rent by holder _____ </p> <p>other land tenure, incl. land used free of any charge _____ ?</p>

B4 ARIB	Has the holding applied for subsidies from ARIB for the utilized agricultural area in 2010? 1 Yes 2 No → B5A
B5 ARIB	Please provide the name(s) of the applicant(s).
B5A	Has the holding, in the previous three years, applied for rural development subsidies which are not officially registered in the holder's name? 1 Yes 2 No → B6
B5B	Please provide the name(s) of the applicant(s).
B6	Which part of the land tenure is wooded area (covered or temporarily not covered with trees)? _____
BX3	<i>DIRECTION</i> <i>If B6 = 0 → B8</i>
B7	Which part of the wooded area is under short (up to 20 years) rotation coppices? _____
B8	Which part of the land tenure is unutilized agricultural area? _____
B9	Which part of the land tenure is other land? Other land includes areas under buildings, pleasure gardens, roads, quarries and inland waters, infertile land (marshland, heaths). _____
BX4	<i>DIRECTION</i> <i>If B2 = 0 → C19</i>
B10T B10	Now we will ask about the utilized agricultural area. What is the area of the kitchen garden? Kitchen garden is usually land near the residential building, where products are grown for the family's own consumption (products are sold only in case of occasional surplus); pleasure gardens, parks and lawns are excluded. _____ Do not take the crops grown in the kitchen garden into account in any other areas.
B11	What is the area of permanent grassland? Permanent grassland includes pastures and meadows (sown or self-seeded), which are used for producing green fodder or hay or are not used, but maintained in good agricultural and environmental condition eligible for area payments. Sown area of multi-annual forage crops, which has been used for five years or more, is included. _____
BX6	<i>DIRECTION</i> <i>If B11 = 0 → B14</i>
BX7	<i>DIRECTION</i> <i>If B4 = 2 → B13</i>
B12 ARIB	Which part of the permanent grassland is temporarily not used for production purposes, i.e. not used for the production of green fodder or hay or for grazing, but is maintained in good agricultural and environmental condition and eligible for area payments? _____
B13 C	Which part of the permanent grassland is natural grassland and grassland which has been used more than 10 years? _____

B14	What is the area of nurseries? Nurseries include forest-tree, fruit tree, berry and ornamental nurseries grown for planting in gardens, parks, etc.; forest-tree nurseries grown for sale both in agricultural and wooded areas are included. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
B15	What is the area of fruit plantations? Include all fruit trees even if they are not yet in production. Exclude fruit trees that grow in the kitchen garden. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
B16	What is the area of berry plantations? Berry plantations include all berry species except strawberries (incl. sea-buckthorn plantations and wild berry species), even if they are not yet in production. Exclude berries that grow in the kitchen garden. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
B17T B17	Now we will ask about the arable land. Do you have arable land? Arable land crops are cereals, pulses, potatoes, industrial crops, strawberries, vegetables, flowers, crops under glass, fodder roots, fodder crops and hay seeds. Fallow land is also included. 1 Yes 2 No → C10A
B18	Do you grow cereals for grain? 1 Yes 2 No → B20
B19 B19.1 B19.2 B19.4 B19.5 B19.6 B19.8 B19.9 B19.10 B19.11 C	What is the area of winter wheat <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> spring wheat <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> rye <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> winter barley <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> spring barley <input type="text"/> <input type="text"/> <input type="text"/> oats <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> buckwheat <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> triticale <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mixed grains <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ?
B20	Do you grow pulses for grain? 1 Yes 2 No → B22
B21 B21.1 B21.2 B21.4 C	What is the area of peas <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> field beans <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> other pulses <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> ?
B22	Do you grow potatoes? 1 Yes 2 No → B24
B23 C	What is the area of potatoes? <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
B24	Do you grow industrial crops? Industrial crops include rape and turnip rape for the production of oil seeds; linseed, flax, aromatic, medicinal and culinary plants, hemp, hops, etc. 1 Yes 2 No → B26

B25	What is the area of
B25.1	winter rape for oil seeds _____
B25.2	spring rape and turnip rape for oil seeds _____
B25.4	linseeds _____
B25.5	flax _____
B25.6	aromatic, medicinal and culinary plants _____
B25.6A	of which sown in 2010 _____
B25.7	hemp _____
B25.8	hops _____
B25.8A	of which planted in 2010 _____
B25.9	other industrial crops _____
B25.9A	of which sown in 2010 _____ ?
 C	
B26	Do you grow vegetables or strawberries in the open field or under low cover? Exclude seeds. 1 Yes 2 No → B29
B27	What is the area of
B27.1	vegetables _____
B27.2	strawberries _____
B27.2A	of which planted in 2010 _____ ?
	
B28	Which part of the vegetables and strawberries are grown in the open field? Exclude market gardening.
	_____
B29	Do you grow flowers and ornamental plants outdoors or under low protective cover for sale? Exclude ornamental nurseries, these belong to nurseries. 1 Yes 2 No → B31
B30	What is the area of flowers and ornamental plants?  _____
B30A	Which part of these have been sown or planted in 2010? _____
B31	Do you grow vegetables or flowers and ornamental plants under glass? Crops under glass are crops which for the whole of their period of growth or the predominant part of it grow in greenhouses which are covered with glass or flexible or rigid plastic. 1 Yes 2 No → B33
B32	What is the area of
B32.1	vegetables under glass _____
B32.2	flowers and ornamental plants under glass _____ ?
	
B33	Do you grow fodder crops on arable land, excluding seeds? Include grass plants for grazing, hay or silage grown in rotation with other crops and occupying the same parcel for less than 5 years. Exclude under-sowings and permanent grassland. 1 Yes 2 No → B35

B34 B34.1 fodder roots (excluding seeds for sale) _____ B34.2 fodder kale _____ B34.4 clover on temporary grassland (at least 80% of clover) _____ B34.4A of which sown in 2010 _____ B34.5 lucerne on temporary grassland (at least 80% of lucerne) _____ B34.5A of which sown in 2010 _____ B34.6 other leguminous plants on temporary grassland (at least 80% of leguminous plants) _____ B34.6A of which sown in 2010 _____ B34.8 other temporary grassland _____ B34.8A of which sown in 2010 _____ B34.9 maize for green fodder _____ B34.10 cereals and pulses for green fodder _____ B34.11 rape and turnip rape for green fodder _____ B34.12 other fodder plants. _____ ?	 C
B35 Do you grow seeds of vegetables, fodder roots or grass plants for sale? 1 Yes 2 No → B37	
B36  What is the area of seeds of vegetables, fodder roots or grass plants for sale? _____	
B36A Which part of this area has been sown in 2010? _____	
B37 Do you have black or green fallow? 1 Yes 2 No → C5T	
B38 B38.1 black fallow _____ B38.2 green fallow _____ ?  C	
BX9 DIRECTION <i>If B4=2 → C5T</i>	
B39  Which part of the fallow is eligible for area payments from ARIB in 2010? _____	

PART C. PLANT GROWING PRODUCTION METHODS

C5T The questions about tillage methods not in common use in Estonia only concern annual outdoor arable land crops, multi-annual outdoor arable land crops sown in 2010, and fallow.	
C6 Did you use zero tillage or conservation tillage on the abovementioned area? Zero tillage is the tillage practice whereby the crop is sown directly into the soil not tilled since the harvest of the previous crop. Conservation tillage is the tillage practice that leaves plant residues (at least 30%) on the soil surface for erosion control, usually by not inverting the soil. 1 Yes 2 No → C8T	
C7 C7.1 zero tillage _____ C7.2 conservation tillage _____ ?	

C8T	The questions about soil cover of arable land in winter only concern annual outdoor arable land crops, multi-annual outdoor arable land crops sown in 2010, and fallow.
C8	During the previous winter, which part of the arable land was covered with
C8.1	winter crops _____
C8.2	cover crop (green fallow) _____
C8.3	plant residues _____
C8.4	bare soil _____ ?
	
C9	Which part of the arable land is out of planned crop rotation? Include arable land that is cultivated with the same crop for 3 or more consecutive years. Temporary grassland, crops under glass and market-gardening vegetables and strawberries are always considered as part of crop rotation. 1 All arable land is in crop rotation 2 Less than 25% is out 3 25-<50% is out 4 50-<75% is out 5 At least 75% is out
	
C10A	Have you maintained any linear landscape features in the holding during the previous three years? Include hedges, tree lines and stonewalls. 1 Yes 2 No → C11A
C10	Which linear landscape features have you maintained in the holding? You can choose more than one. 1 Hedges 2 Tree lines 3 Stonewalls
C11A	Have you established any linear landscape features in the holding during the previous three years? Include hedges, tree lines and stonewalls. 1 Yes 2 No → C12A
C11	Which linear landscape features have you established in the holding? You can choose more than one. 1 Hedges 2 Tree lines 3 Stonewalls
C12A	Is sprinkler or drop irrigation equipment used in the holding? Exclude equipment which has only been used for crops under glass and in the kitchen garden. 1 Yes 2 No → C19
C12	Which equipment is used? You can choose more than one. 1 Sprinkler irrigation equipment 2 Drop irrigation equipment
C13	Which area of the utilized agricultural land can be irrigated with this equipment, taking into account the quantity of water normally available in the holding? Exclude crops under glass and in the kitchen garden. _____
C14	Which area of the utilized agricultural land has been irrigated at least once during the previous 12 months? Exclude crops under glass and in the kitchen garden. _____
CX2	DIRECTION If C14 = 0 → C18
C15	What is the amount of water (in cubic metres) used for irrigation during the previous 12 months? _____

C16	What is the area of the following crops and plants that has been irrigated during the previous 12 months: C16.1 cereals for grain _____ C16.2 pulses for grain _____ C16.3 potatoes _____ C16.4 rape and turnip rape _____ C16.5 flax and hemp _____ C16.6 open-field vegetables and strawberries _____ C16.7 maize for green fodder _____ C16.8 grass plants on temporary grassland (less than 80% leguminous plants) and permanent grassland _____ C16.9 other crops on arable land _____ C16.10 fruit trees and berry plantations _____ ?
	C17 Which sources of irrigation water do you mainly use? 1 On-farm ground water 2 On-farm surface water 3 Off-farm surface water from lakes, rivers or watercourses 4 Off-farm water from common water supply networks 5 Water from other sources
C18	What is the average area of utilized agricultural land that has been irrigated during the previous three years? _____
C19	Do you grow mushrooms? Include mushrooms grown in buildings specially erected or adapted for growing mushrooms, as well as mushrooms grown in underground premises, caves and cellars. 1 Yes 2 No → D1
C20	What is the area of mushrooms? Specify the total effective surface area used for growing (beds, bags, or similar surfaces) in square metres. _____

PART D. NUMBER OF ANIMALS AND ANIMAL HUSBANDRY PRODUCTION METHODS

D1	Do you keep agricultural animals, poultry or bees? Please provide the numbers of animals, poultry and bees as of 1 September 2010. 1 Yes 2 No → D25
D2	Do you keep bovine animals? 1 Yes 2 No → D5
 D3	How many of the following do you have: D3.1 bovine animals under one year old _____ D3.2 male bovine animals one but less than two years old _____ D3.3 female bovine animals one but less than two years old _____ D3.4 dairy cows _____ D3.5 other cows _____ D3.6 male bovine animals two years old and over _____ D3.7 heifers, two years old and over _____ ?

	D4 During the previous year, how many bovine animals did you have on average D4.1 in a stanchion-tied stable with solid dung _____ D4.2 in a stanchion-tied stable with slurry (the manure and urine drop down below the floor into a pit where they form slurry) _____ D4.3 in loose housing with solid dung _____ D4.4 in loose housing with slurry _____ D4.5 in other type of stables _____ ?
	D5 Do you keep sheep or goats? 1 Yes 2 No → D7
	D6 How many of the following do you have: D6.1 breeding female sheep _____ D6.2 other sheep _____ D6.3 breeding female goats _____ D6.4 other goats _____ ?
	D7 Do you keep equidae? 1 Yes 2 No → D9
	D8 How many equidae do you have? _____
	D9 What is the area you have used for grazing during the previous year (1 September 2009 – 31 August 2010)? _____
	DX2 DIRECTION <i>If D9 = 0 → D11</i>
	D10 For how many months did you graze the animals during the previous year? _____
	D11 Do you keep pigs? 1 Yes 2 No → D14
	D12 How many of the following do you have: D12.1 piglets _____ D12.2 breeding sows _____ D12.3 other pigs _____ ?
	D13 During the previous year, how many pigs did you have on average D13.1 In a stable with partially slatted floors _____ D13.2 In a stable with completely slatted floors _____ D13.3 In a stable with straw beds (deep litter-loose housing) _____ D13.4 in other type of stables _____ ?
	D14 Do you keep female rabbits? 1 Yes 2 No → D16
	D15 How many female rabbits do you have? _____
	D16 Do you keep bees? 1 Yes 2 No → D18
	D17 How many hives do you have? _____
	D18 Do you keep poultry? 1 Yes 2 No → D21A

D19 D19.1 D19.2 D19.3 	What is the number of broilers _____ laying hens _____ other poultry _____ ?
DX2A	<i>DIRECTION If D19.2 = 0 → D21A</i>
D20 D20.1 D20.2 D20.3 D20.4 D20.5 	During the previous year, how many laying hens did you have on average in a stable with straw beds (deep litter-loose housing) _____ in a battery cage with manure belt _____ in battery cages with deep pit _____ in battery cages with stilt house _____ in other type of stables _____ ?
D21A	Do you have manure storage facilities? Include manure storage facilities for solid dung, for slurry (tanks and lagoons) and for liquid manure. 1 Yes 2 No → D25
D21 	What kind of manure storage facilities do you have? You can choose more than one. 1 Storage facility for solid dung → D22 2 Slurry tank (including those beneath livestock houses) → D23 3 Slurry lagoon → D23 4 Storage facility for liquid manure → D24
D22	Is the storage facility for solid dung covered? 1 Yes 2 No <i>If D21=2 or 3 → D23, if D21=4 → D24, other → D25</i>
D23	Is the storage facility for slurry covered? 1 Yes 2 No <i>If D21=4 → D24, other → D25</i>
D24	Is the storage facility for liquid manure covered? 1 Yes 2 No
D25 	What is the area of utilized agricultural land on which solid manure has been applied during the previous year? 1 No manure has been applied → D27 2 Less than 25% of the utilized agricultural area 3 25-<50% of the utilized agricultural area 4 50-<75% of the utilized agricultural area 5 At least 75% of the utilized agricultural area
D26 	What is the area of utilized agricultural land on which solid manure has been applied with immediate incorporation during the previous year? A 4-hour threshold can be considered as the time limit to distinguish immediate incorporation. 1 Immediate incorporation has not been applied 2 Less than 25% of the utilized agricultural area 3 25-<50% of the utilized agricultural area 4 50-<75% of the utilized agricultural area 5 At least 75% of the utilized agricultural area
D27 	What is the area of utilized agricultural land on which slurry has been applied during the previous year? 1 No slurry has been applied → D29 2 Less than 25% of the utilized agricultural area 3 25-<50% of the utilized agricultural area 4 50-<75% of the utilized agricultural area 5 At least 75% of the utilized agricultural area

D28 	What is the area of utilized agricultural land on which slurry has been applied with immediate incorporation during the previous year? A 4-hour threshold can be considered as the time limit to distinguish immediate incorporation. 1 Immediate incorporation has not been applied 2 Less than 25% of the utilized agricultural area 3 25–<50% of the utilized agricultural area 4 50–<75% of the utilized agricultural area 5 At least 75% of the utilized agricultural area
D29 	What is the percentage of the total produced manure exported from the holding during the previous year? 1 No manure has been exported from the holding 2 Less than 25% of the manure 3 25–<50% of the manure 4 50–<75% of the manure 5 At least 75% of the manure

PART E. LABOUR FORCE OF THE HOLDING

ET	The following questions concern the holding's agricultural labour force during the previous year (1 September 2009 – 31 August 2010). The following questions are about the holding's manager.
E1 	Who is the manager of the holding? 1 Holder 2 Holder's spouse (conjugal partner) 3 Other member of the holder's family 4 Other manager
E2 	What is the agricultural training of the holding's manager? 1 Only practical agricultural experience 2 Basic agricultural training, i.e. vocational agricultural education from a vocational school, vocational secondary school, etc. 3 Full agricultural training, i.e. secondary specialized, higher vocational and/or higher agricultural education
E3	Has the manager of the holding undertaken vocational training during the previous 12 months? 1 Yes 2 No
EX1	DIRECTION <i>If E1 = 1 or 2 → E7</i>
E4	What is the gender of the manager of the holding? 1 Female 2 Male
E5	How old is the manager of the holding? 1 Less than 25 years 2 25–34 years 3 35–44 years 4 45–54 years 5 55–64 years 6 At least 65 years
E6 	What is the working time of the manager in the agricultural holding? Include only farm work and exclude housework. 1 Less than 25% of the working time 2 25–<50% of the working time 3 50–<75% of the working time 4 75–<100% of the working time 5 Working full-time

E7	The following questions are about the holder of the holding. What is the gender of the holder of the holding? 1 Female 2 Male
E8	How old is the holder of the holding? 1 Less than 25 years 2 25–34 years 3 35–44 years 4 45–54 years 5 55–64 years 6 At least 65 years
E9 	What is the working time of the holder in the agricultural holding? Include only farm work and exclude housework. 1 The holder does not work in the holding 2 Less than 25% of the working time 3 25–<50% of the working time 4 50–<75% of the working time 5 75–<100% of the working time 6 Working full-time
EX2	<i>DIRECTION</i> <i>If E1 = 2 → E11</i>
E10	Does the holder of the holding also have a spouse (conjugal partner)? 1 Yes 2 No →E13
E11	How old is the holder's spouse? 1 Less than 25 years 2 25–34 years 3 35–44 years 4 45–54 years 5 55–64 years 6 At least 65 years
E12 	What is the working time of the holder's spouse in the agricultural holding? Include only farm work and exclude housework. 1 The spouse does not work in the holding 2 Less than 25% of the working time 3 25–<50% of the working time 4 50–<75% of the working time 5 75–<100% of the working time 6 Working full-time
E13	Have any other members of the holder's family worked in the holding during the previous year? Include all persons aged at least 17 or who have completed their general education, who carried out farm work in the holding — production of agricultural products, maintenance and works related to this. Members of the holder's family are the holder's relatives (excl. the holder's spouse) who carry out farm work in the holding, regardless of whether they live in the holding, work regularly or receive remuneration. 1 Yes, only female members of the holder's family → E14 2 Yes, only male members of the holder's family → E15 3 Yes, both female and male members of the holder's family → E14 and E15 4 No → E16
E14	How many female members of the holder's family have worked in the holding
E14.1	with working time less than 25% __ __
E14.2	with working time 25–<50% __ __
E14.3	with working time 50–<75% __ __
E14.4	with working time 75–<100% __ __
E14.5 	full time __ __ ?

	E15 How many male members of the holder's family have worked in the holding E15.1 with working time less than 25% <input type="text"/> E15.2 with working time 25-<50% <input type="text"/> E15.3 with working time 50-<75% <input type="text"/> E15.4 with working time 75-<100% <input type="text"/> E15.5 full time <input type="text"/> ?
	E16 Have any regular employees worked in the holding during the previous year? Include all persons aged at least 17 or who have completed their general education, who carried out farm work in the holding — production of agricultural products, maintenance and works related to this. 1 Yes, only female employees → E17 2 Yes, only male employees → E18 3 Yes, both female and male employees → E17 and E18 4 No → E19
	E17 How many female regular employees have worked in the holding E17.1 with working time less than 25% <input type="text"/> E17.2 with working time 25-<50% <input type="text"/> E17.3 with working time 50-<75% <input type="text"/> E17.4 with working time 75-<100% <input type="text"/> E17.5 full time <input type="text"/> ?
	E18 How many male regular employees have worked in the holding E18.1 with working time less than 25% <input type="text"/> E18.2 with working time 25-<50% <input type="text"/> E18.3 with working time 50-<75% <input type="text"/> E18.4 with working time 75-<100% <input type="text"/> E18.5 full time <input type="text"/> ?
	E19 Have any non-regular employees worked in the holding during the previous year? 1 Yes 2 No → E22
	E20 How many non-regular employees have worked in the holding? <input type="text"/>
	E21 How many days have non-regular employees worked? <input type="text"/>
	E22 Have any persons not directly employed by the holding, i.e. contractors' employees, worked in the holding during the previous year? 1 Yes 2 No → E24T
	E23 How many days have persons not directly employed by the holding worked in the holding? <input type="text"/>
	EX7 DIRECTION <i>If E1=2, 3 or 4 → EX3</i>
	E24T Now we will ask about other gainful activities of the labour force. E24 Does the holder of the holding have any other gainful activities as a major or subsidiary activity? Other gainful activity is any activity other than farm work in the holder's own holding (such as accommodation, etc.) or work in another holding or enterprise (including farm work) carried out for remuneration. 1 Yes 2 No → EX3

E25 	Is the other gainful activity 1 other major activity directly related to the holding (where the holding's land, buildings or machinery are used) 2 other major activity not directly related to the holding 3 other subsidiary activity directly related to the holding → E26 4 other subsidiary activity not directly related to the holding? → E26
E25A BR	If the holder is registered in the Commercial Register, what is the major activity?
EX3	DIRECTION <i>If E10 = 2 → EX4</i>
E26	Does the holder's spouse (conjugal partner) have any other gainful activities as a major or subsidiary activity? 1 Yes 2 No → EX4
E27 	Is the other gainful activity 1 other major activity directly related to the holding (where the holding's land, buildings or machinery are used) 2 other major activity, not directly related to the holding 3 other subsidiary activity directly related to the holding 4 other subsidiary activity, not directly related to the holding?
EX4	DIRECTION <i>If E13 = 4 → EX5, except if E1 = 3</i>
E28	Do other members of the holder's family working in the holding have any other gainful activities as a major or subsidiary activity? Exclude from the information on other gainful activities all persons who have worked in the holding for less than a month, if the given gainful activity was carried out without making use of the land, buildings or equipment owned by the holder. 1 Yes 2 No → EX5
E29 E29.1 	How many other members of the holder's family have other major activities directly related to the holding (where the holding's land, buildings or machinery are used) <input type="text"/> <input type="text"/> <input type="text"/> E29.2 other major activities, not directly related to the holding <input type="text"/> <input type="text"/> <input type="text"/> E29.3 other subsidiary activities directly related to the holding <input type="text"/> <input type="text"/> <input type="text"/> E29.4 other subsidiary activities, not directly related to the holding <input type="text"/> <input type="text"/> <input type="text"/> ?
EX5	DIRECTION <i>If E16 = 4 → F1A, except if E1 = 4</i>
E30	Do the regular employees (non-family labour) working in the holding have any other gainful activities as a major or subsidiary activity where the holding's land, buildings or machinery are used? 1 Yes 2 No → F1A
E31 E31.1 E31.2	How many of the regular employees have other major gainful activities <input type="text"/> <input type="text"/> <input type="text"/> other subsidiary gainful activities <input type="text"/> <input type="text"/> <input type="text"/> ?

PART F. DESTINATION OF THE HOLDING'S PRODUCTION, EQUIPMENT FOR PRODUCTION OF RENEWABLE ENERGY, OTHER GAINFUL ACTIVITY

F1A	Are there any gainful activities other than farm work carried out in the holding? Include only the activities where the holding's land, buildings or machinery are used. 1 Yes 2 No → F4
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F1 	Which are the other gainful activities of the holding? You can choose more than one. 1 Tourism, accommodation 2 Handicraft 3 Processing of farm products 4 Production of renewable energy 5 Wood processing 6 Aquaculture 7 Agricultural contractual work (for other holdings) 8 Non-agricultural contractual work 9 Forestry 10 Other
F2 	What is the importance of other gainful activities as a percentage of the final output of the holding? Include into the total turnover all direct payments, excluding subsidies on investment. 1 Less than 10% 2 10–<50% 3 50–<100%
F4 	What kind of equipment is used in the holding for producing renewable energy? 1 Equipment for producing renewable energy from wind energy 2 Equipment for producing renewable energy from biomass, excluding equipment for the production of biomethane 3 Equipment for production of biomethane 4 Equipment for producing renewable energy from solar energy 5 Equipment for producing renewable energy from hydro-energy 6 Equipment for producing renewable energy from other types of renewable energy sources
F5	Does the household consume more than 50% of the value of the holding's final production of plant growing and animal husbandry? 1 Yes 2 No

PART G. SPECIFICATION OF THE MAIN LOCATION OF THE HOLDING

G3	What is the number of the cadastral unit of the holding's main location? END
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ANNEX 3

RATIOS OF THE IMPUTED VALUES

Indicator (the codes meet the requirements of the Data Suppliers' Manual)	Ratio of the imputed value
A_3_1	0.15%
A_3_1_1	0.34%
A_3_1_2	0.03%
A_3_1_3	0.00%
B_1_1_1	0.02%
B_1_1_3	0.01%
B_1_1_4	0.03%
B_1_1_5	0.03%

B_1_1_99	0.03%
B_1_2_1	0.05%
B_1_3	0.11%
B_1_6_4	0.03%
B_1_7_1_2	0.45%
B_1_7_1_1	0.04%
B_1_9_1	0.13%
B_1_9_2_2	0.09%
B_1_12_2	0.06%
B_2	0.19%
B_5_1	0.27%
B_5_2	0.26%
B_5_2_1	0.11%
B_5_3	0.31%
C_1	0.15%
C_2_1	0.03%
C_2_2	0.18%
C_2_3	0.04%
C_2_4	0.28%
C_2_5	0.12%
C_2_6	0.04%
C_2_99	0.05%
C_3_1_1	0.35%
C_3_1_99	0.11%
C_3_2_1	1.40%
C_3_2_99	0.94%
C_4_99	0.00%
C_5_1	0.00%
C_5_2	0.06%
C_5_3	0.06%
C_7	0.10%
E_1_3_M_1_24	0.41%
E_1_3_M_25_49	0.25%
E_1_3_M_50_74	0.21%
E_1_3_M_75_99	0.37%
E_1_3_F_1_24	0.22%
E_1_3_F_25_49	0.40%
E_1_3_F_50_74	0.43%
E_1_3_F_75_99	0.39%
E_1_4_M_100	0.02%
E_1_4_F_1_24	0.20%
E_1_5	0.29%
E_1_6	0.19%
E_2_3_1	0.27%
E_2_3_2	0.14%
E_2_3_3	0.26%
M_4_1_1	0.07%
M_5_1_1	0.10%
M_5_1_3	0.01%
M_5_1_99	0.04%
M_5_2_3	0.01%
M_5_3_1	0.44%

M_1_1	0.05%
M_2_1_1	0.00%
M_2_1_2	0.05%
M_2_1_3	0.02%
M_2_1_4	0.06%
M_8_4	25.15%
A_2; A_3_3_1; D_2_1_1; D_2_1_2; D_2_1_2_1; D_2_1_3; D_2_1_4; D_2_1_99; E_1_2; E_1_2_4A; E_1_2_4B; F_1_1; F_1_2; F_1_3; F_1_4; F_1_5; F_1_6; F_1_7_1; F_1_7_2; F_1_8; F_1_99; F_2_1; M_2_2_1; M_3_1_A; M_3_1_B; M_3_1_C; M_3_2_A; M_3_2_B; M_3_2_C; M_4_1_2; M_6_1_1; M_6_1_2; M_6_2_1; M_6_2_2; M_6_3; M_7_1_1; M_7_1_2; M_7_1_3_1; M_7_1_3_2; M_7_2_1; M_7_2_2; M_7_2_3	0.83%
E_1_1; E_2_1_3; E_2_1_4; E_2_2_3; E_2_2_4	0.91%
