

FARM STRUCTURE SURVEY 2007

NATIONAL METHODOLOGICAL REPORT

June 2008

CZECH REPUBLIC

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SUMMARY

The Farm structure survey (FSS) was run in autumn 2007. The Czech Statistical Office (CZSO) was responsible for the course and processing of the survey. The contents of the questionnaire and the fixing of threshold values are in compliance with standards in force in the EU Member States.

The FSS 2007 reference period for state indicators was related to 30 September 2007. Due to the methodology (Annual Work Unit – AWU) characteristics concerning the use of labour force in agriculture were measured for the preceding annual interval of October 2006 to September 2007.

Reporting units for the year 2007 were sampled in two rounds so that the final result would minimally cover 95% of the agricultural production in the Czech Republic (CR). The sample embraced a total of 4 514 municipalities in which interviewers spoke to more than 42 thousand farmers. Along with the holdings addressed by mail we obtained data (updated, precised, new or even negative) on nearly 50 thousand entities in agriculture.

The State Statistical Service Act and the Programme for Statistical Surveys for the year 2007 stipulated a reporting duty for the agricultural survey. Data was collected with a unified common questionnaire by two ways: (i) by mail: the questionnaires were mailed to legal persons registered in the Farm Register (RF) and to newly emerged legal persons and (ii) by face-to-face contact: natural persons (the more numerous group), were addressed individually by external interviewers. The interviewers helped the farmers to complete the questionnaires, and they collected and checked the questionnaires and passed them over to a respective workplace of the regional offices of CZSO. After the checks, the questionnaires were subsequently sent in batches to the CZSO Statistical Data Processing Department in České Budejovice for central processing.

FSS 2007 summary results will be released in the publication 'Farm Structure Survey Results on Czech Agriculture 2007' at a press conference in August 2008. The released data will be also available at the CZSO's website www.czso.cz.

1 INTRODUCTION

1.1 HISTORY, SCOPE

Farm Structure Survey FSS 2007 is already the third sample survey that was carried out on the basis of the Regulation of the European Parliament and Council as last amended. Similarly as the previous surveys in 2003 and 2005, the Farm Structure Survey 2007 was included in the Programme of Statistical Surveys for the year 2007, which is every year approved by the Parliament for the subsequent year (as laid down in Act No. 89/1995 Coll., on the State Statistical Service). The target of the FSS 2007 was, first of all, to update and extend data obtained in Agrocensus 2000 as well as to get data comparable with other EU Member States. Some data was collected for national needs. Secondly, another important aim of FSS 2007 was to use obtained data for updating the Farm Register that is commonly updated continuously. The register also records data on farmers who are not active any longer or have temporarily interrupted their activities for different reasons. To get such information a short questionnaire was used enabling the farmers to state their reasons for being inactive.

At the turn of the millennium CZSO mounted the above-mentioned Agrocensus 2000. The census was implemented in the framework of the World Census of Agriculture arranged by the Food and Agriculture Organisation of the United Nations (FAO) regularly at the turn of every decade. The aim of Agrocensus 2000 was to identify all farming entities and to record basic data on their significance, position, economic size, production activity and production and other functions. In addition to the traditional information on agricultural production activities, characteristics of follow-up activities related to the environment, rural space and agro-tourism became available. The indicators measured in Agrocensus 2000 were related to 30 September 2000, mostly in line with EU legislation. The basic criterion for an agricultural entity to be included in Agrocensus 2000 was 1 (one) hectare of utilized agricultural land plus a number of sub-criteria. The survey produced a file of approximately 56 000 active reporting units that met pre-set thresholds at that time. These units became a basis for updates of the Farm Register.

The transformation processes under way in the Czech Republic after 1989 brought principal and deep changes in ownership and forms of holdings in Czech agriculture. There was only partial information about these changes, provided by routine statistical surveys and departmental sample surveys. Comprehensive information on the new structure of Czech agriculture and on its enterprise basis seen from the angle of legal forms of enterprise,

ownership, size of agricultural holdings, labour, material and technical supplies and the like, was missing. To collect this information was set as an objective of Agrocensus 1995 organised at the time when the transformation processes already progressed a lot, but were not yet completed. The main purpose of the census was also to check the enterprises included in the Business Register for activity, in other words to ascertain the actual number of enterprises engaged in agricultural production as principal activity. This ad hoc statistical survey Agrocensus 1995 was mounted administered by CZSO throughout the Czech Republic in compliance with Act No. 89/1995 Coll. on the State Statistical Service and conducted on 1-31 October 1995 in cooperation with local authorities of state administration, regional bodies of CZSO, and regional departments of the Agrarian Chamber and the Ministry of Agriculture of the Czech Republic.

In 1969 Czechoslovakia re-established its proper membership of FAO, assuming the duty to participate in activities of this international organisation. This also implied to take part in large-extent extraordinary actions such as the world censuses of agriculture (WCA) that constituted a key comprehensive source of information on world agriculture. The former Czechoslovakia participated in the WCAs in 1970, 1980 and 1990. The Federal Statistical Office of that time cooperating with the Czech Statistical Office and the Slovak Statistical Office ensured WCA requirements mostly through normal, exhaustive statistical surveys run by state statistical authorities and geodetic and cartographic bodies, reclassifying and processing the survey results in accordance with FAO principles.

In 1930 an extensive census of agricultural works was mounted by the State Statistical Institute of that time. The census had a wide coverage and its processing was also very detailed, carried out at many various breakdowns of the agricultural works. The results were brought out in tens of volumes of the then journal "Československá statistika" (Czechoslovak Statistics). The census had been prepared in accordance with the world census of agricultural works organized in the same year by the International Institute of Agriculture in Rome.

1.2 LEGISLATION

Act No. 89/1995 Coll., on the State Statistical Service, as amended is the basic national legislation related to statistical surveys.

Paragraph 2 of the Act defines basic concepts such as statistical survey, reporting unit, reporting duty:

- *The statistical survey* is the acquisition of data from reporting units for statistical purposes pursuant to this Act;

- *The reporting unit* is a legal person or a natural person or its part or a state authority from which data for a statistical survey is required under this Act,
- *The reporting duty* is the duty of a reporting unit to provide required data completely, correctly, truly and in time for all statistical surveys listed in the Programme of Statistical Surveys.

Paragraph 8 of the Act defines which kind of data can be required in statistical surveys from natural persons having the reporting duty:

- a) First name and family name, birth certificate number, permanent address or eventually place of the respondent's entrepreneurial activity,
- b) Entrepreneurial activity,
- c) Data on real property owned or rented by a natural person and income from such property,
- d) Agricultural activity, even if not carried out as an entrepreneurial activity,
- e) Technical means used for agricultural activity,
- f) Acreage and use of agricultural land serving for other agricultural purposes than production.

Pursuant to Paragraph 9 of the Act, authorities carrying out the State Statistical Service are allowed to use administrative data obtained or gathered on the basis of special legislation by the ministries and other administrative authorities. The ministries and other administrative authorities are obliged to provide such data to the authorities carrying out the State Statistical Service on their request, in time and free of charge, unless provided otherwise in the Act.

Paragraph 13 of the Act lays down that agricultural censuses are conducted by CZSO or by the Ministry of Agriculture of the Czech Republic in co-operation with municipalities. Municipalities ensure data collection on questionnaires received from the authority carrying out the census; this authority covers the relevant expenses incurred by the municipalities. Persons authorized by the municipality to conduct agricultural censuses are allowed to become familiar with individual data needed to fulfil their tasks; they must, however, neither make these data public nor communicate them to anyone but employees of the authority conducting the census.

Paragraph 16 of the Act lays down that it is incumbent to keep secrecy and protect individual data. Employees of the State Statistical Services and other natural persons processing statistical surveys or collecting data for agricultural censuses shall be subject to secrecy of individual data they get familiar with. To this end, they must be sworn to secrecy when entering their employment or before they start the relevant work.

Pursuant to Paragraph 26 of the Act, a fine may be imposed on a reporting unit for breaching the duties stipulated by this Act.

Statistical surveys are carried out based on the Programme of Statistical Surveys for the relevant year. The Programme is published in the Collection of Laws and it is the basic condition for arising of the reporting duty for economic entities that are called on (usually in writing) to fulfil their duty by the Czech Statistical Office or the relevant unit of the ministry performing the State Statistical Service.

Paragraph 10 of the Act lays down that the Programme of Statistical Surveys is set by CZSO in a decree, which is drawn up in cooperation with the ministries and other administrative offices and is always published by 30 November of previous year at the latest. The Programme shows the following for each statistical survey it includes:

- Purpose and contents of the survey,
- Reporting units subject to the reporting duty,
- Manner of the survey,
- Periodicity and deadlines for giving individual data,
- Authority conducting the survey.

Reporting units have a reporting duty for all statistical surveys listed in the Programme of Statistical Surveys.

The FSS 2007 (Zem 2007) was carried out on the basis of the Programme of Statistical Surveys for the year 2007, which was published as an annex to the Decree No. 476 in the Collection of Laws of the Czech Republic, chapter 156, of 2 November 2006.

2 CONTENT

2.1 CHARACTERISTICS

Council Regulation (EEC) No 571/88 of 29 February 1988 is the basic law that imposes the duty on the EU Member States to organize surveys on the structure of agricultural holdings on their territories. It is followed with Commission Regulation (EC) No 204/2006 of 6 February 2006 adapting Council Regulation (EEC) No 571/88 and amending Commission Decision 2000/115/EC with a view to the organisation of Community surveys on the structure of agricultural holdings in 2007.

CHARACTERISTICS SURVEYED FOR NATIONAL PURPOSES

The following characteristics are surveyed for national purposes:

- Acreage of utilised agricultural land by cadastre
- Detailed information on organic farming (on request of the Ministry of Agriculture and external users of statistics)
- Detailed breakdown of machinery and equipment (on request of the Research Institute of Agricultural technology)
- Services for agriculture
- Processing of self products, provision of services – data is used for compiling Economic Accounts for Agriculture
- Self consumption in the period of 1 October 2006 – 30 September 2007 – data is used for compiling the Economic Accounts for Agriculture
- Principal specialisation of the agricultural production

CHARACTERISTICS THAT DEVIATE FROM EU LIST OF CHARACTERISTICS

According to the EU definitions, hop is included in crops grown on arable land. In the Czech Republic, hop or hop-yard is traditionally reported as permanent crops just like vineyards, gardens, orchards and permanent grassland. Resulting from a historical development, when we make a sum of individual permanent crops (hop-yards + vineyards + gardens + orchards + permanent grassland) plus arable land, what we get is the total agricultural land. Due to this different approach data in New Cronos will differ from the data published on the national level.

According to the EU definition, nurseries are included in permanent crops. In the Czech Republic, nurseries are traditionally reported as crops grown on arable land. Due to this fact data in New Cronos will differ from the data published on the national level likewise.

TAKEN MEASURES

Characteristic I08B (areas used for the production of agricultural raw material for non-food purposes) was surveyed differently from the EU definition. According to the EU definition these areas should already been recorded under D (crops on arable land) and G (permanent crops) characteristics. According to the Czech methodology these areas have been counted in the characteristic “Other industrial crops” to ensure linkage between the section in the questionnaire. Method of processing results has been adjusted after the comparison of FSS results with results from the regular survey “Sowing Area Census”. Area recorded under characteristic “Other industrial crops” has been divided into separate characteristics D and G.

In the methodological notes of the questionnaire there is written that the section ZC09 row 04 includes areas used for the production of agricultural raw materials for non-food purposes. Areas shall be recorded in the section ZC12, row 24 to ensure linkage between these two sections (ZC09 and ZC12). During the processing period we have compared data (area of other industrial crops as well as area of other crops that are used for non-food production) obtained from regular survey “Sowing Area Census” with FSS data. After comparison of the data, area recorded under characteristic “Other industrial crops” has been divided into separate characteristics D and G.

Characteristic I08C (areas converted into permanent pasture and meadows) was surveyed a little bit differently from the EU definition. According to the EU definition these areas are already recorded under characteristics F/1 (pasture and meadows) and F/2 (rough grazing). Czech methodology came from of the “Programme of Rural Development in the Czech Republic in the period 2007 – 2013” where it is stipulated that areas covered in a sub-measure “Grassing over the arable land” (agro environmental measure) are recorded under the respective characteristic F/1 (permanent pasture and meadows), F/2 (rough grazing) or F/3 (permanent grassland and meadows no longer used for production purposes) according to their use (grazing, cutting, maintaining in good agricultural and environmental condition). Method of processing results has been adjusted on the basis of additional consultations with Eurostat experts. Area recorded under characteristic F/3 has been added to characteristic F/1.

NON-SIGNIFICANT CHARACTERISTICS

D02 – durum wheat, D09F – lentils, chick peas and vetches, D09G – other protein crops harvested dry, D32 – hemp, G01C – fruit and berry plantations – nuts, G07 – permanent crops under glass

NOT EXISTED CHARACTERISTICS

D07 – rice, D23 – tobacco, D25 – cotton, D33 – Other textile crops, CC03 - Agricultural area utilised for shared farming or other modes, G01B – fruit and berry plantations – subtropical climate, G02 – citrus plantations, G03 – olive plantations, G04B – vineyards – other wines, G04D – vineyards – raisins

REFERENCE PERIOD

The structural survey covered majority of applied indicators of status nature. For these variables, reporting units gave the actual value of the indicator with reference to the moment of the survey carried out during the month of September. Total results were then related to 30 September 2007.

Pursuant to the AWU methodology (AWU - Annual Work Unit), quantities concerning the use of labour force in agriculture were measured for the previous 12-month period (October 2006 to September 2007).

CHANGES OF DEFINITIONS OF CHARACTERISTICS AFFECTING COMPARABILITY WITH PREVIOUS SURVEY DATA

Reference period is the same as in the previous surveys (FSS 2003, 2005).

Characteristics J09A, J09B, J10A, J10B will differ from the data in 2003. In the previous survey (FSS 2003) the above-mentioned characteristics were surveyed differently¹⁾ from the EU definitions²⁾. In 2005 and 2007 the definitions of the above-mentioned characteristics are completely in line with the EU definitions.

2.2 QUESTIONNAIRE

Two types of paper questionnaires were designed for FSS 2007.

(A) Questionnaire “ZEM 2007” for all reporting units that meet at least one criterion of the threshold values, which are the same for all reporting units. Characteristics are on the questionnaire grouped into divisions, which are of three kinds: (a) indicative, (b) subject matter and (c) data divisions. There are in total 25 divisions on the questionnaire:

- Workers in the holding of natural person in the period of 1 October 2006 – 30 September 2007
- Other gainful activity of the holder’s family members
- Data on the manager of the holding
- Labour regularly employed in the holding of legal person
- Age structure of labour

¹⁾ J09A – breeding females (ewes, rams), J09B – other sheep including lambs; J10A – breeding females (goats, billy-goats), J10B – other goats including kids

²⁾ J09A – breeding females (ewes, ewe lambs for breeding), J09B – other sheep (all sheep other than breeding females); J10A – breeding females (nanny-goats, kids for breeding), J10B – other goats (all goats other than breeding females)

- Labour irregularly employed
- Persons not directly employed by the holding
- Land use 2007 (as of the date of the survey)
- Utilised agricultural area as of the date of the survey, by cadastres
- Destination of the holding's production
- Aid for investments during the last five years
- Areas under payment scheme
- Organic farming
- Extent of the organic farming
- Land use in 2007
- Livestock as of the date of the survey
- Manure fertilizers
- Machinery and equipment as of the date of the survey
- Source and methods of irrigation
- Agricultural services in 2007
- Irrigation in the period of 1 October 2006 – 30 September 2007
- Processing of self products, provision of services in the period of 1 October 2006 – 30 September 2007
- Self-consumption in the period of 1 October 2006 – 30 September 2007
- Principal agricultural production of the holding
- Non agricultural activities for rural development

(B) Questionnaire “Zem 2007 – m” is designed to provide additional information on registered farmers who are not in business for one reason or another or the volume of their farming is below the threshold values of the survey. Characteristics on the questionnaire Zem 2007 – m are grouped into divisions, which are of three kinds: (a) indicative, (b) subject matter and (c) data divisions. Respondents complete the following four divisions:

- The reason why ID number (IČO) for agricultural primary production is not used
- Volume of the farming of small farmers below survey thresholds
- Rent of agricultural land by users
- Data on successor

3 SURVEY METHODOLOGY

3.1 SURVEY ORGANISATION

The CZSO Agricultural, Forestry and Environmental Statistics Department was responsible for the preparation, course, adherence to methodology, organisation as well as financial aspects of FSS. Its staff responsible for FSS also closely cooperated with the Ministry of Agriculture of the Czech Republic, Research Institute of Agricultural Economics, Research Institute of Agricultural Engineering, Agrarian Chamber of the Czech Republic and other agricultural organisations. Various issues concerning methodological explanatory notes for interviewers, harmonization of indicators, users' requirements on data outputs, etc. were consulted with experts.

In order to ensure smooth course of the survey, 3 groups of staff on different levels of CZSO were participating. Within their competence, the groups were fully responsible for allocated tasks and for successful progress of the survey. The survey had a number of phases:

- Phase 1: preparation, organisation, coordination, monitoring – group 1 (Agricultural Department)
- Phase 2: survey in the field – group 2 (regional offices of CZSO)
- Phase 3: processing – group 3 (Statistical Data Processing Department in České Budějovice)
- Phase 4: data validation, dissemination – group 1

As for the methodology and organisation of the survey, the Agricultural Department administered the survey in regions and districts via CZSO regional offices. Regional CZSO employees at the same time ensured realization of the survey in enterprises of legal persons. Investigation in holdings of natural persons was carried out in the place of their residence by external interviewers, who had been recommended by municipal offices. The Statistical Data Processing Department in České Budějovice was responsible for processing and software.

GROUP 1 – Agricultural, Forestry and Environmental Statistics Department

Employees of the Agricultural, Forestry and Environmental Statistics Department were responsible for the preparation, course and organisation of the survey, coordination of the work in accordance with the methodological instructions, continuous monitoring of the work already done as well as for financial matters.

Work schedule:

Second half of 2006:

- The questionnaire was designed and prepared (including the description of the questionnaire and of statistical variables' identifiers).
- Detailed methodological notes for individual sections were compiled in cooperation with appropriate experts (e.g. experts from the Research Institute of Agricultural Engineering cooperated on the section "Machinery and equipment", experts from the Research Institute of Melioration and Soil Protection assisted on methodological notes for the section "Irrigation").

Beginning of 2007:

- Specification of organisational, financial and time aspects of the survey.
- Determination of the scope of employment.
- Allocation of competencies to individual sections of CZSO.
- Summary budget of necessary financial resources was compiled.

First half of 2007:

- Detailed methodological instructions and the ID cards for the interviewers were made.
- All forms (questionnaires including methodological notes, instructions and ID cards for interviewers) were printed out and then distributed to the regional offices.
- Office aids for interviewers (folders, markers for filling in the questionnaires) and stationery materials (envelopes, correcting tapes, toners) were ordered for the CZSO regional offices.
- Elaboration of the technical project for inputs (it specifies different aspects of the survey: time schedule, checking operations, correction procedures, processing technology, requirements for data transmission, storing and data backup).
- Sample sets were generated (in agricultural Department) and then distributed to regional offices.
- Information prospectus was created in cooperation with the Regional Analysis and Information Services Department. It was designed for natural persons to be surveyed in the field.
- A leaflet was made for municipal offices. Each contained brief FSS 2005 results in the form of tables, graphs, cartograms etc. and information on carrying out FSS 2007 in the respective municipality.
- Marketing and Promotion Department assisted at creating a banner promoting FSS 2007 on CZSO website.
- Press information was written for media.

June 2007:

- Training of regional CZSO staff.

- Detailed minutes were written after the training. It included also examples of filled-in questionnaires with special focus on completing the complicated sections of the questionnaire.
- Regional staff was provided with Uniform specimen of the contracts for work and contracts for services to be made with external interviewers.
- A letter accompanying the questionnaires for the holdings of legal persons distributed by mail was drafted.

July – December 2007:

- Majority of work on the survey was that time localised at CZSO regional offices, whose main tasks were to carry out field survey (administered by regional directors) and to keep the stipulated time schedule of the survey.
- Agricultural department staff provided methodological instructions to the regional offices, continuously monitored the survey progress and made sectional assessments.
- Regional offices were inspected whether all accountancy documents and contracts for work were correctly labelled and whether time schedule deadlines were followed.

November 2007 – April 2008:

- Further work on the survey was localised at Statistical Data Processing Department workplace in České Budějovice.
- Survey time schedule check and processing methodology check made by Agricultural Department staff.
- Questionnaire processing included scanning of questionnaires, conversion from paper to electronic version, scanned data verification (visual check), transfer of data to software DMAN, preparation of check run (including its verification and eventual correction).
- Agricultural Department staff worked out technical project for outputs specifying the content and format of the outputs from the survey and programming requirements.

April – June 2008

- Database of FSS 2007 results was checked at the Agricultural Department.
- Data was consequently transformed into Eurofarm format including validation check (validation rules set up by Eurostat).
- Farm register was updated with FSS 2007 data.
- Grossing up coefficients were counted.
- Standard errors for crops and livestock were calculated at Maths – statistics methods Department at CZSO.

- Calculation of the SGM coefficient was subcontracted to the liaison agency FADN CZ (Research Institute for Agricultural Economics).

GROUP 2 – regional offices of CZSO

Heads of fourteen CZSO regional offices were responsible for smooth course of the survey in the field.

June 2007:

- Employees of the regional offices of the CZSO took part in training to get acquainted with detailed methodological notes and time schedule of the survey.

July – August 2007:

- Regional staff distributed letters to municipal offices informing them about forthcoming FSS survey and asking for cooperation in selecting suitable interviewers.
- Contracts for work were completed with the interviewers.
- Interviewers were properly trained and provided with questionnaires, instructions for interviewers a list of reporting units, stationery materials (folders, markers, etc.) and special identification card.

September 2007:

- Cover letters and questionnaires were sent to the holdings of legal persons.
- Due to low response, legal persons had to be urged to deliver filled in questionnaire.

September – October 2007:

- Continuous assistance to the interviewers.
- Inspection of the interviewers in the field focused on level of communication with reporting units, number of visits, quality of the filled in questionnaires and truth of the filled in data.
- No serious shortcomings were discovered. Controls confirmed that the interviewers visited reporting units according to the list and filled in the questionnaire in compliance with instructions for the interviewers.
- Regional staff regularly provided personal or telephone consultations to the interviewers.

October – December 2007:

- Collection of filled in questionnaires from the interviewers at the CZSO regional offices.
- Collecting process was trouble free because regional staff was in continual contact with the interviewers and continuously solved any problem.

- Questionnaires were collected in batches so that mistake detection and fast correction could have been made much easier.
- Gathered questionnaires were coded and in batches delivered to Statistical Data Processing Department in České Budějovice where they were registered and processed.
- Overloaded regional offices hired for 3 months experienced temporary workers to control data integrity and section relationship, to carry out logic checks, and to code questionnaires.

GROUP 3 – Statistical Data Processing Department in České Budějovice

Statistical Data Processing Department ensured centralised processing of questionnaires using an optical character reading method (OCR method). The same Department carried out checks for correctness and completeness of the data files at the national level (including checks for double counting of ID numbers).

Processing run in several steps:

- OCR reading of the questionnaires, storing
- Recognition and correction of the scanned data
- Selected logic checks of numerical fields in the OCR mode
- Transformation of data to DMAN programme
- Check runs and data corrections
- Print-out of check tables before grossing up
- Producing of net DBF file and sending it to the Agricultural Department
- Recognition, check and corrections of the remaining identification items (name, street, building number, postcode, municipality, district) scanned from the front page of the questionnaire.

SURVEY STAFF

Seven employees of the Agricultural Department were engaged in work on the survey **in the group 1**. The director and the head, representing the highest level of management, administered the survey. Two employees were responsible for methodology, preparation, organisation, and coordination of the survey and survey monitoring at regional offices of CZSO. Another three employees were concerned in generating samples, allocating unique identification codes (DKOD) for newly emerged reporting units, programming and updating the Farm Register. Approximately another five employees from other Departments participated in creating and printing out the questionnaires, ordering office materials, creating promotion materials etc.

In total 1 641 persons were engaged in work on the survey **in the group 2** (at CZSO regional offices), of which 146 were permanent employees (including heads of regional offices). At the regional offices, where the number of surveyed reporting units was high, another 56 temporary workers were hired on contract for 3 months. These temporary workers were experienced statisticians, either former CZSO employees or steady co-workers who were engaged in irregular surveys or had experience from previous FSS surveys. The most numerous group comprised 1 439 interviewers who made the survey in the field.

Seventeen persons took part in processing data **in the group 3** (Statistical Data Processing Department in České Budějovice), of which six are permanent employees of this Department. Three permanent employees were responsible for transforming data from the questionnaires to electronic format (using OCR mode – scan), for checking identification information and formal controls of correctness of filled-in questionnaires and, furthermore, they compiled entry database, submitted the file for the consequent processing and finally prepared control tables and outputs for publications. Another 3 employees took the responsibility for processing control checks and correction of detected mistakes in cooperation with the staff at the regional offices, eventually directly with the reporting unit concerned. 11 temporary workers were hired on contract to help with the verification of scanned data.

In total, 1 670 people (permanent staff of CZSO, temporary workers, interviewers) were engaged in FSS 2007.

3.2 WORK PROCESS

Deadline	Workplace	Activity
YEAR 2007		
January - February	Agricultural Dpt.	Specification of budget items for the survey from the CZSO financial resources
		Compiling methodological notes to the questionnaire
		Graphic design of the questionnaire suitable for scanning
		Working out technical project for inputs
March	Agricultural Dpt.	Preparing leaflets with results from 2005 survey designed for municipal offices
		Planning the sampling of reporting units
		Preparing and organisation of the survey (timetables, financial provisions etc.)
		Information for the president of CZSO on forthcoming survey (legislation, organisation, course of the survey, human resources requirements, data processing, budget)
April – May	Agricultural Dpt.	Access to e-DAMIS for data submission to Eurostat was arranged
		Compiling instructions for interviewers
		Working out prospectus designed for reporting units surveyed in the field
		Creating banner promoting the survey and writing down the introductory note on the forthcoming survey

		Drafting cover letters for municipal offices, letters for legal persons, contracts for work and contracts for services
June	Agricultural Dpt.	Staff preparation meeting: extent of the survey, organisation, management, course of the survey, processing, timetable, financing
		Drawing up budget
		Defining basic population of the reporting units
		Generating samples, sending them to regional offices
		Training of the regional staff and Statistical Data Processing Department staff
		Specification of the contracts for temporary workers
		Working out Minutes of the staff training meeting including examples
	Reg. office	Sending accompanying letters to municipal offices
	Statistical Data Processing Department	Programming enter data, checking, control tables
	Other Dpts.	Ordering material – folders, markers, correctors, envelopes for regional offices
Printing out questionnaires, instructions for interviewers, ID cards		
July - August	Reg. office	Training of interviewers at regional offices
		Completing contracts for work with the interviewers
	Statistical Data Processing Department	Working out timetable for transmission of the questionnaires to Statistical Data Processing Department in České Budějovice
	Agricultural Dpt.	Providing methodological service
September – October	Reg. office	Fieldwork in chosen municipalities
		Monitoring the course of the survey and stage of processing
		Sending questionnaires to legal persons
		Transmitting first batch of the questionnaires to Statistical Data Processing Department (deadline: end of October)
		Collecting questionnaires from legal persons
	Agricultural Dpt.	Continuous monitoring of the survey, providing methodological service and working out FAQ
		Working out technical project for outputs
Statistical Data Processing Department	Verifying the programme for outputs	
	Programming output tables	
November – December	Reg. office	Collecting questionnaires from interviewers, corrections
		Payment to interviewers for completed work
		Coding and work assembly
		Transmitting questionnaires in batches to Statistical Data Processing Department
	Statistical Data Processing Department	Scanning questionnaires according to timetable, correction of mistakes, check runs
	Agricultural Dpt.	Continuous monitoring of the survey
		Staff meeting – informing on the course of the survey
		Working out data convertor between the questionnaire structure and Eurofarm structure

December – January	Statistical Data Processing Department	Scanning questionnaires according to timetable, correction of mistakes, check runs
	Reg. office	Finishing the survey
		Delivering the list of legal persons not engaged in agricultural activity
YEAR 2008		
January – March	Agricultural Dpt.	Translation of the questionnaire, methodological notes
		Updating Farm register
		Compiling program for conversion of data in Eurofarm format
	Statistical Data Processing Department	End of data processing
		Generating of the control tables (raw data)
	Research Institute of Agricultural Economics	Calculation of SGM coefficients 2004
April – May	Agricultural Dpt.	FSS 2007 results transformation into Eurofarm format
		Database checks according to Eurofarm database – validation rules, verification process (eDamis)
		Standard error calculation
	Research Institute of Agricultural Economics	Calculation of SGM coefficients for individual farms
	Statistical Data Processing Department	Generating of the control tables (grossed up data)
June	Agricultural Dpt.	Validated Eurofarm database, NMR
		Update of the Farm Register

3.3 PREPARING THE SURVEY OPERATION

3.3.1 Population and frame

POPULATION

By the EU definition, the agricultural holding is a single unit both technically and economically, which has single management and produces agricultural products or maintains its land which is no longer used for production purposes in good agricultural and environmental condition, in line with Council Regulation (EC) No 1782/2003. The holding may also provide other supplementary (non-agricultural) products and services.

Reporting units (constituting the target population) were all legal persons and natural persons having their SGM \geq 600 thousand Czech Crowns no matter whether they were located in chosen municipalities or not. In addition to them, in the selected municipalities

natural persons with SGM < 600 thousand Czech Crowns or unknown natural persons were surveyed. Reporting units had to meet survey thresholds set up for Agrocensus 2000:

- 1 ha of utilised agricultural area, own or rented, or
- 1500 m² of intensive crops (orchards, vegetable, flowers), or
- 1000 m² of vineyards, or
- 300 m² of greenhouses and hotbeds, or
- 1 head of cattle, or
- 2 heads of pigs, or
- 4 heads of sheep and goats, or
- 50 heads of poultry, or
- 100 heads of rabbits or fur animals.

FRAME

The basic frame of FSS 2007 is based on the Farm Register that contains information on all reporting units meeting the listed thresholds and engaged in agriculture. Newly emerged units were chosen from the Business Register (containing data on all businesses in the national economy) to verify their activity in agriculture and the extent of farming.

3.3.2 Survey design

Sampling of farms was carried out at two levels – (i) exhaustively and (ii) as a combination of sample survey and exhaustive survey. The Farm Register maintained by CZSO Agricultural Dept. was used as the basic sample frame.

(i) Holdings of legal person and natural persons with SGM > 600 000 CZK (farms in economic size 7, 8, 9, 10 and farms partially included in 6) from the Farm Register were surveyed exhaustively. Set up SGM limit exceeded 3 013 holdings of legal person and 4 903 holdings of natural person.

(ii) Natural persons with SGM < 600 000 CZK or with unknown SGM were sampled. Sampling was carried out in two steps:

The first step included generating population that was consisted of 6 382 basic territorial units (ZUJ). ZUJ is identical with municipality with the exception of chartered towns where ZUJ comprised city district. Each of ZUJ was assigned its weight determined by the number of natural persons farmed in ZUJ whose SGM did not reach 600 000 CZK. This piece of information was received from the Farm Register. Other parameters of each ZUJ were belonging to region at level NUTS3 and agricultural production area that expressed a combination of altitude and natural conditions. ZUJ with identical agricultural production area and NUTS3 formed individual strata. The whole weight of the stratum (i.e. number of natural persons with SGM < 600 000 CZK) was derived from the sum of weights for individual ZUJ.

The number of farms in ZUJ ranged from 0 to 424, the average being 6,4 farms per ZUJ. Sampling was aimed at ZUJ and in selected ZUJ there were surveyed all natural persons exhaustively which met FSS thresholds.

The municipalities were sampled by means of a generator of random numbers in the Visual FoxPro software. The sampling of ZUJ in a stratum was terminated in the following step when 70% of the total weight of stratum was exceeded. In this way, 4 514 ZUJ were chosen out of the total 6 382 ZUJ.

There were 43 051 natural persons in the Farm Register at the moment of generation. There were selected 30 571 holdings of natural person.

Total number of surveyed reporting units from the Farm Register was 38 487. Moreover, there were addressed other natural persons in selected ZUJ coming from other sources (e.g. Business Register – units newly emerged with agricultural NACE, LPIS) as potential farmers. From other sources we received about 11 223 reporting units. Thus, the whole sample contained 49 710 reporting units.

A total of 30 134 of completed questionnaires were returned by active farms which exceeded the threshold values in 2007.

3.3.3 Pilot survey

Considering that the survey was already conducted two times (2003 and 2005), it was not necessary to carry out a pilot survey. Although the questionnaire has not changed considerably compared to previous one in 2005, all changes made were provided with detailed methodological notes. Employees at the regional offices were informed about the changes made in the questionnaire.

3.3.4 Informing and training the staff and respondents

INTERVIEWER AND OTHER STAFF TRAINING

The training was realized in two steps. **In the first step**, during June and July 2007, the staff of Agricultural Department trained not only the employees at the regional offices of CZSO but also employees of the Statistical Data Processing Department in České Budějovice according to a time schedule (20th and 21st June, 25th – 29th June). Training took place in Prague and at regional offices (in Plzeň, Hradec Králové, Olomouc, Brno, České Budějovice). Tutors called their attention to changes in the sections of the questionnaire compared to the previous survey and presented in detail methodological notes drawn up for the each section. At the end of the training organisation and timetable of the survey were clarified. A necessity to observe the deadlines set for the FSS 2007 was reminded. Staff of

the Agricultural Department wrote down detailed minutes on the training meetings including several examples how to fill in complicated sections of the questionnaire.

The second step of the training was designed for the interviewers who worked in the field. Training of the interviewers fell completely under the responsibility of the staff at CZSO regional offices. Training took place in several terms because of the high number of interviewers and limited capacity of the workplaces at the regional offices. Training in small groups proved very good thanks to more personal and detailed explanation of the methodology for individual sections. Trained external interviewers received office materials (folders, markers), questionnaires, and instructions for interviewers, interviewer's ID card and list of surveyed reporting units. The main task was to detect whether a reporting unit was farming and the extent of the production. The second mentioned aspect had impact on whether a farmer would fill in either "big" questionnaire or a "small" one designed for such reporting units that did not farm anymore or they were below survey thresholds. Interviewers helped the farmers complete the questionnaires, they collected and checked the questionnaires and then passed them over to an authorized worker at the regional office.

INFORMING THE RESPONDENTS

Informing reporting units on the survey was supported both by the Czech Statistical office and by municipalities.

The Czech Statistical Office informed about the survey by means of its Internet website (www.czso.cz) and every regional office of CZSO (there are 14 regional offices) published information on the survey on its regional website. Press information was displayed there together with a prospectus for reporting units surveyed in the field, with leaflets for municipal offices, with a material containing international comparison of the FSS 2005 results and a web-link to Eurostat publication – SIF – showing aggregated outputs on EU level.

Municipal offices informed on the forthcoming survey by means of (i) information boards where the leaflet with the FSS 2005 results was displayed, (ii) a bulletin of the municipal office and (iii) QA system in the municipalities.

Legal persons recorded in the Farm Register and newly emerged legal persons (recorded in the Business Register) were sent a cover letter informing them about the FSS 2007 survey.

For reporting units to be surveyed by the interviewer, CZSO prepared a prospectus. There were 14 versions of it, it means that each region had its own version of the prospectus, but all versions had a unified structure. Thus, respondents were informed on the legislation framework of the survey (EU as well as Czech regulations), thresholds of the survey,

purpose, content, target and other important aspects of the survey such as protection of confidential data. The prospectus contained a table of selected indicators (number of active entities in agriculture, labour force in agriculture, total utilised agricultural area by individual crops, number of livestock, machinery and equipment) from the previous surveys FSS 2003 and FSS 2005. This information was extended with (i) graphs – age structure of labour force in agriculture by regions in 2005, number of reporting units and utilised agricultural area in ha by prevailing legal forms in 2005, share of regions on organic farming UAA in 2005 and (ii) cartograms – share of workers aged 55+ on the total labour force in agriculture by districts in 2005. Each prospectus contained contacts to workers carrying out the survey.

The CZSO published at its website (www.czso.cz) a banner, which informed the users on the survey taking place from 1 September to 31 October 2007.



3.4 SAMPLING, DATA COLLECTION AND DATA ENTRY

3.4.1 Sampling

Reporting units were chosen on the basis of experience gained during the previous surveys and other aspects such as budget and a sampling method.

Sampling was made by means of a generator of random numbers in the Visual FoxPro software.

3.4.2 Data collection and entry

DATA COLLECTION ORGANISATION

Employees at the regional offices of CZSO were responsible not only for the course of the survey in the field but also for the work done by external interviewers.

Using lists of selected respondents and having advantage of good knowledge of local conditions in municipality the interviewers delivered the questionnaires to the reporting units, explained the purpose of the survey and helped them to complete the questionnaire. In case that the interviewers did not catch the farmer at home, they had to repeat the visit. After collecting the questionnaires, interviewers carried out the checks prescribed in the Instructions for Interviewers and handed over the questionnaires to CZSO regional offices. As a whole, the work done by interviewers was positively evaluated. Continuous contact between the regional staff and interviewers, methodological consultation and random monitoring in the field all that contributed to achieving good results.

DATA COLLECTION METHODS

Combination of two methods of data collection was used for the survey – (i) by post, (ii) interviewing. Legal persons received questionnaires by post together with a cover letter. External interviewers visited natural persons during September and October. In case a reporting unit rejected to respond, an official employee of the CZSO regional office visited this unit again or gained the data by phone. Phone calls were used mostly for reminder calls and for checking whether the data is correct.

COMPILATION TIME PER QUESTIONNAIRE

Depending on the scope of production of the farm concerned, 3,5 hours were spent on average on filling in the questionnaire with an active farmer (i.e. a person who meets at least one criterion of listed threshold values). Filling in the small questionnaire for a registered inactive farmer or a farmer below the thresholds lasted approximately 0.5 hour.

DATA ENTRY MODES

Employees of the CZSO regional offices checked prescribed section linkages filled in codes and transmitted questionnaires in batches to the Statistical Data Processing Department in České Budějovice where the questionnaires were scanned. Method of optical reading (OCR) was used for processing the questionnaires. Data was recognized and corrected. Scanning was followed with processing in the Dataman programme. According to the technical project for inputs, control checks started in that phase to make eventual corrections. During this phase duplicities were verified and eliminated. Refined DBF file was created and transmitted to the Agricultural Department for subsequent processing.

PROCESSES/TECHNIQUES OF THE DATA TRANSMISSION TO THE CZSO HEADQUARTERS

According to the time schedule, the Agricultural Department received a refined DBF file in 5 batches in the required structure as specified in the technical project for inputs.

3.4.3 Utilisation of administrative data sources

According to the Commission Decision No 2007/80/EC, the Czech Republic was not allowed to use information from other sources than statistical surveys in order to measure the structure of farms for the year 2007.

3.4.4 Control of the data

There was a multi-stage control process applied, starting with (i) basic controls in the field during the collection of questionnaires by interviewers, followed with (ii) controls at questionnaire delivery by external interviewers at CZSO regional offices, than (iii) controls during the processing (such as logic checks, checks for completeness, linkage to nomenclatures, duplicities, etc.).

(i) Interviewers had to control completeness of the filled-in questionnaire, checksums and linkages between particular sections. When an inadequacy was found on that level, the farmer concerned was contacted again and the data was added or corrected.

(ii) Staff of the CZSO regional offices controlled the questionnaires upon their take-over from interviewers. Temporary workers helped in the next step with coding of necessary identification data of the reporting units. Similar procedure was also used for the questionnaires sent by post, when an incomplete questionnaire was found, employees of the CZSO regional offices contacted the reporting unit by phone to ensure that the missing data is added.

(iii) During processing at the Statistical Data Processing Department in České Budějovice questionnaires were thoroughly checked. Data digitalisation process included

various limit conditions and logic checks which were applied to the data. Technical project for inputs clearly defined the checks, which can be of two kinds: (a) informative and (b) binding. Binding controls have to be verified and corrected and, if needed, explained and commented.

Data control procedure was considerably time consuming. Firstly, scanner staff carried out optical check of scanned questionnaires whether numerical figures and codes were fetched properly. Cramped data was corrected and verified after careful checks. Controlled data was transferred to DMAN programme and a check run was started.

Statistical Data Processing Department in České Budějovice programmed automatic check tables for the most important indicators (number of reporting units broken down by legal form; agricultural land; main categories of animals; labour force). Thanks to them, data was compared to the data from the previous survey on the national level; it was also checked whether no mistake in digit places occurred (data in 100s instead of in 1000s, etc.) during the processing.

3.4.5 Non-response

Where a questionnaire was not fully completed, regional staff contacted the reporting unit concerned by phone and filled in the missing data.

In case of the reporting units that received the questionnaires by mail the response rate was low. CZSO's staff reminded these units by mail and afterwards several times by phone as long as they got requested data.

3.5 DATA PROCESSING, ANALYSIS AND ESTIMATION

3.5.1 Methods for handling missing or incorrect data items

Where data was missing, the reporting units were contacted by phone and the data obtained.

3.5.2 Estimation and sampling errors

ESTIMATION METHOD (S)

Survey sample was carried out as stratified simple random cluster sampling without replacement. Strata were defined as combination of NUTS3 and agricultural production areas.

ZUJ were selected by simple random sample till the number farms in ZUJ sampled exceeded 70 % of total number of farms in stratum. Then all farms were contacted exhaustingly in these selected municipalities.

Sample size was not fixed (both municipalities – clusters and farms).

Ratio estimator was applied (number of farms as auxiliary variable), weighting treated non-response. These weights due to non-response were uniform within separate stratum.

Outliers were detected by means of fixed thresholds of selected variables. Estimation weights of outliers were trimmed to 1. Extreme farms were excluded from sampling error estimation. Farm was detected as outlier if at least one condition was true:

- Poultry – 20 000 and more
- Agricultural area – 300 hectares and more
- Arable land – 150 hectares and more
- Cereals – 100 hectares and more
- Pigs – 300 and more
- Cattle – 200 and more
- Sheep – 300 and more
- Goats – 250 and more.

Total estimates and estimates of their sampling errors are calculated in every stratum separately. Estimates by less detailed breakdown of results are obtained by summing up estimates by corresponding strata.

Notation of characteristics of farms and municipalities in stratum

Index h ($h = 1, 2, H$) denotes number of stratum (combination of NUTS2 and production area):

N_h	Number of farms in stratum h (by register)
M_h	Number of municipalities (clusters) in stratum h
m_h	Number of municipalities (clusters) selected in stratum h N_{jh} - number of farms in j -th municipality (by register)
N_{jh}	Number of farms in j -th municipality (by register)
$n_h = \sum_{j=1}^{m_h} N_{jh}$	Number of farms in selected municipalities (by register)
N'_{jh}	Number of farms in j -th municipality really observed (N_{jh} + „births“-„deaths“)
$N'_h = \sum_{j=1}^{M_h} N'_{jh}$	Number of farms in stratum h that really exist
$n'_h = \sum_{j=1}^{m_h} N'_{jh}$	Number of selected farms in stratum h really observed (N'_h + „births“-„deaths“)

r'_{jh} Number of responding farms in j -th municipality

$r'_h = \sum_{j=1}^{n'_h} r'_{jh}$ Number of responding farms in stratum h

Totals of estimated variable y (e.g. number of cows):

y_{ijh} Value of variable y of i -th farm in j -th municipality in stratum h

$y_{jh} = \sum_{i=1}^{n'_{jh}} y_{ijh}$ Sum of variable y of responding farms in j -th municipality

$y_h = \sum_{j=1}^{m_h} y_{jh}$ Sum of variable y of responding farms in stratum h

$Y_{jh} = \sum_{i=1}^{N'_{jh}} y_{ijh}$ Sum of variable y of all farms in j -th municipality

$Y_h = \sum_{j=1}^{M_h} Y_{jh}$ Sum of variable y of all farms in stratum h

Means of estimated variable y and number of farms in stratum h :

$$\bar{\bar{Y}}_h = \frac{Y_h}{N_h}, \bar{\bar{Y}}'_h = \frac{Y_h}{N'_h}, \bar{Y}_h = \frac{Y_h}{M_h}$$

$$\bar{y}_h = \frac{y_h}{n_h}, \bar{y}'_h = \frac{y_h}{n'_h}, \bar{y}_h = \frac{y_h}{m_h}$$

$$\bar{N}_h = \frac{N_h}{M_h}, \bar{N}'_h = \frac{N'_h}{M_h}$$

COMPOSITION OF EXTRAPOLATION FACTOR

Reporting units were assigned to strata that combined three respective four variables: (i) legal form of reporting units and their economic size, (ii) belonging to agricultural production areas, (iii) belonging to region according to farm headquarters or permanent residence of natural persons.

A code of stratum consists of six-digit chain 0X0YZZ, where:

a) X acquires value from 2 to 4 and distinguishes legal form of reporting unit and its economic size:

2 – active natural persons from Farm Register (FR) with SGM < 600 000 CZK including newly emerged natural persons

3 – active natural persons from FR with SGM > 600 000 CZK

4 – active legal persons from FR and newly emerged

b) Y acquires value from 1 to 5 according to the belonging of the reporting units to one of the five agricultural production areas

- 1 – Maize,
- 2 – Sugar beet,
- 3 – Potato,
- 4 – Potato-oats,
- 5 – Mountainous.

c) *ZZ* is an abbreviated code of NUTS3 and has value 11, 21, 31, 32, 41, 42, 51, 52, 53, 61, 62, 71, 72 and 81.

From the above-mentioned it results that strata 03*, 04* were surveyed exhaustingly and strata 02* were sampled. There were 70 strata in theory of which only 52 were loaded. Maize agricultural production area exists only in two regions and on the other hand mountainous agricultural production area is missing in two regions.

The recount coefficient of each stratum K_p :

$$K_p = \frac{N_z}{N_v}$$

- K_p recount coefficient
- N_z number of units in population generated from Farm Register for individual stratum
- N_v number of units in sample in individual stratum
- Natural persons with SGM > 600 000 CZK and also legal persons have extrapolation factor equal to 1 (they were surveyed exhaustingly).

Remark: While counting standard errors we have discovered 109 extreme units (outliers) whose extrapolation factors have been changed (equal to 1). Consequently, new stratum was designed. This stratum is equal to stratum 03*, but it begins with 9 for better detection of these extreme units.

ESTIMATORS AND VARIANCE ESTIMATION

Assumptions and simplifications of total estimator and variance estimator applied in separate strata:

- Sampling design of municipalities is treated as simple random cluster sampling without replacement. It follows from part 3.4.1 Drawing sample that the size of sample (number of municipalities selected) is not fixed. We apply formula for simple random cluster sampling with fixed sample size of municipalities that equals the number of really selected municipalities (m_h).

- „Births“ and „deaths“ are homogenous in strata – it means, that $\frac{N_h}{n_h} = \frac{N'_h}{n'_h}$.

The probability of non-response of farm does depend on neither municipality nor value of estimated variable y .

Estimator of total of variable y can be interpreted as ratio estimator (auxiliary variable X is number of farms) with reweighing treatment of non-response:

$$\hat{t}_y = \frac{N_h}{n_h} \times \frac{n'_h}{r'_h} \times y_h = N_h \times \frac{n'_h}{r'_h} \times \frac{y_h}{n_h} = N_h \times \frac{n'_h}{r'_h} \times \frac{y_h/m_h}{n_h/m_h},$$

Formula of variance estimator with uniform non-response in the whole stratum h :

$$\hat{V}(\hat{t}_y) = \left(\frac{N_h}{n_h}\right)^2 \cdot \left(\frac{n'_h}{r'_h}\right)^2 \cdot \left(1 - \frac{m_h}{M_h}\right) \cdot \frac{m_h}{m_h - 1} \cdot \sum_{j=1}^{m_h} \left(y_{jh} - \frac{y_h}{r'_h} \cdot r'_{jh}\right)^2,$$

$$\hat{V}(\hat{t}_y) = \left(\frac{N_h}{n_h}\right)^2 \cdot \left(\frac{n'_h}{r'_h}\right)^2 \cdot \left(1 - \frac{m_h}{M_h}\right) \cdot \frac{m_h}{m_h - 1} \cdot \sum_{j=1}^{m_h} \left(y_{jh} - \frac{y_h}{r'_h} \cdot r'_{jh}\right)^2.$$

Table: Relative standard error

	Relative standard errors ¹	Relative standard errors ²
Agricultural land	1,6%	0,2%
Arable land	2,1%	0,1%
Cereals	2,2%	0,2%
Pulses	8,4%	0,5%
Potatoes	3,7%	0,6%
Sugar beet	15,8%	0,2%
Oleganious plants	4,6%	0,2%
Cattle	2,4%	0,2%
Pigs	3,5%	0,1%
Poultry	5,9%	0,7%
Sheep	3,6%	2,4%
Goats	7,0%	5,2%

¹⁾ Estimates for reporting units with less than 600 thousand CZK

²⁾ Estimates for all reporting units were calculated for 95 % confidence interval

SOFTWARE USED

All calculations were carried out by SAS Version 9.1.3 mostly by means of PROC SQL. Descriptive statistics of relative error of estimates were calculated in Excel.

Remark: Due to variance estimator chosen and non-response treatment variance estimators may be rather underestimated, especially in strata with low number of municipalities selected. These municipalities are mostly unimportant because of low level of agricultural production.

3.5.3 Non-sampling errors

During the survey following errors occurred:

- *Contact error* – incomplete or incorrect contact data in the address of reporting units, cancelled telephone line
- *Misclassification* – a very low percentage of reporting units were incorrectly classified into a geographical area (some municipalities were included in incorrect NUTS4)
- *Time divergence* between generating sample and carrying out the survey in the field (end of business, bankruptcy, merging of several reporting units, etc.)
- *Duplicity* in the sample set
- *Under-coverage error* – the list of agricultural holdings for FSS 2007 was generated from the Farm Register and Business Register. However, during the survey 2 928 new farms were found. These farms were not included in FSS sample set but they belong to the target population.
- *Over-coverage error* – according to the results of FSS 2007, the over-coverage was/reached 19 576 (39,4 % of the sample set). These units, in fact, do not belong to the target population because they have finished their agricultural activity or use their ID number for other activities than agricultural (see table below).

Table: A list of non-sampling errors (holding of natural and legal person)

Non-sampling errors	Number of RU
Cessation of work on the farm	5 281
RU declares NACE 01 in the Business Register but has no agricultural activity	1 520
Temporary cessation of work on the farm	1 252
ID number is used for services in crop or animal production or landscaping etc.	398
ID number is used for keeping domestic animal (pets)	163
ID number is used for non-agricultural activities (trade, building industry, etc)	6 192
Extent of farming is under the survey thresholds	2 026
Farmer is dead	958
Farmer has his own ID number but works as a family member on the farm with ID number	1 786
Total	19 576

Table: Sample, returned questionnaires, over-coverage

	Sample	Returned questionnaires	Over-coverage
TOTAL	49 710	30 134	19 576
Farm Register	35 234	29 294	5 940
Legal person	3 013	2 705	308
Natural person with SGM>600 000 CZK	4 903	4 408	495
Natural person with SGM<600 000 CZK	27 318	22 181	5 137
Other sources (Business Register, LPIS)	14 476	840	13 636
Legal person newly emerged	4 544	237	4 307
Natural person newly emerged	9 932	603	9 329

Commentary to the table:

- Units generated from other sources (Business Register, LPIS etc.) than the Farm Register caused quite high over-coverage. These units state not only agricultural activity but also several other activities within the NACE classification (e.g. trading, industry, tax/finance consulting, real estate, food industry etc.). We have to check the information whether the units are engaged really in agricultural activity or not. In the majority cases we find out that these units do another business and therefore the over-coverage is too high.

- Units generated from Farm Register caused lower over-coverage. However the over-coverage exists. These units do not meet the thresholds for the survey or stopped their activity from many reasons (the holder died and there is no successor to continue the activity, fusion of several holdings etc.)

3.5.4 Evaluation of results

The FSS numeric results were compared with routine statistical surveys: FSS 2007 data on animals was compared with the Livestock Census made as at 1 April 2007 and the FSS 2007 data on sowing areas was compared with Sowing Area Census conducted as at 31 May 2007. The figures do not differ significantly.

4 PUBLICATION AND DISSEMINATION

Press conference will be organised in August 2008 in the framework of an international agricultural fair “Země Živitelka” in České Budějovice. The first results of the survey will be introduced in a publication called “Farm Structure Survey Results 2007”. In October another publication “Farm Structure Survey Results 2007 by regions” will be published. The last publication will be released by the end of 2008 or at the beginning of the year 2009: “Farm Structure Survey Results 2007 – Analysis”.

Publications will be available both in paper (only per order) and in electronic form at the website of the Czech Statistical Office – www.czso.cz. All publications are bilingual (Czech, English).