1. **Historical Outline**
The first census was implemented in Hungary in 1895 and covered all characteristics of agriculture (land, livestock, labour force). The second census was in 1935, the recommendations of the International Agricultural Institute in Rome (the predecessor of the FAO) have been taken into account. In the years between 1956 and 1959 a nation-wide orchard survey, in 1960 the survey on agricultural machinery, and between 1961 and 1963 a nation-wide vineyard survey was carried out by the HCSO. Agricultural censuses have been conducted in 1972, 1981, 1991, 2000 and 2010.

The Agricultural Census 2010 was the seventh of its kind and it was the first one implemented by Hungary as an EU member state. The census implementation had two specific feature in 2010, firstly on the Survey on agricultural production methods (SAPM, so called module part of the questionnaire) was conducted on a sample basis, secondly during the preparatory and data production phase administrative sources were more widely used than in case of any previous Census.

The main objectives of the 2010 Census were to provide the necessary information for the elaboration of the Common Agricultural Policy (CAP), to identify the structural changes in the Hungarian agriculture since the Agricultural Census 2000 as well as to meet the domestic information needs of Hungarian policy makers.

2. **Legal Basis and Organization**
The Act XXIV of 2010 approved by the Hungarian Parliament provides the regulatory framework of the Agricultural Census 2010. According to the act Agricultural Census 2010 should be carried out with the reference date of 1st June 2010 in the territory of Hungary in line with the EU Regulation 1166/2008/EC. The survey has to cover all statistical units involved in agricultural production and meeting at least one of the minimum size thresholds.

The Hungarian Central Statistical Office was responsible for the implementation of the census. In order to increase coverage the Statistical Office was authorized to use administrative data sources listed in the Act and had the legal authority to access them.

3. **Reference Period or Date**
The Census reference date for almost all characteristics was 1st June 2010.

The following census reference periods were used for:

(1) Farm labour force, buying and renting land area, non-agricultural activities, SAPM - 12 month preceding the day of survey, and

(2) Irrigated area and rural development measures - last 3 years (2008, 2009, and 2010)

4. **Enumeration Period**
The enumeration period for the Hungarian Census of Agriculture was between 1 and 21 June 2010 with the reference date of 1st June.

5. **Definition of the Statistical Unit**
EC Regulation 1166/2008 defines the statistical unit as an agricultural holding.

„Agricultural holding“ or „holding“ means a single unit, both technically and economically, which has a single management and which undertakes agricultural activities listed in  Annex I to the European Parliament and Council Regulation (EC) No 1166/2008 within the economic territory of the European Union, either as its primary or secondary activity. In addition, the EU regulation determines thresholds of size.

In Hungary for the 2010 Agricultural census the following physical threshold was applied for the holdings in the household sector:

The holding uses at least:

- 1500 m² productive land area (including jointly or severally arable land, kitchen garden, orchard, vineyard, meadow, pasture, forest, fish-pond, reed), or
- 500 m² orchards or vineyards, jointly or severally (at least 400 m² of fruit trees and 200 m² of berries or vines), or
- 100 m² land area under cover, or
50 m² mushroom area, or
The holding has at least:
• one head of big animals (cattle, pig, horse, sheep, goat, buffalo, emu, ostrich, donkey), or
• 50 heads of poultry, such as hens, geese, ducks, turkeys, guinea fowls, or
• 25-25 heads of rabbits, furry animals, pigeons for slaughter, or
• 5 bee colonies;
or provides agricultural services.

No threshold applied for holdings in the non-household sector.

6. Geographic Coverage
Covered the entire country.

7. Exclusions and Cut-Off Thresholds
None noted other than those stated as the minimum threshold of agricultural activity in the national definition of an agricultural holding.

8. Methodology

Use of the FAO Modular Approach
No

Frame
In the preparation phase of FSS 2010 the farm register was completed with information from the following administrative sources:
• register of land users (kept at the Land Cadastre Offices);
• data of farmers receiving area based subsidies (from IACS);
• farmers involved in organic farming (from Organic Farming Register)
• business register (for the holdings in non-household sector).

Complete or Sample Enumeration Methods
For the 2010 Census of Agriculture was a combination of two survey initiatives, one was the Farm Structure Survey an enumeration of all agricultural holdings the other, the Survey on Agricultural Production Methods was a sample.

Sample Design
The Farm Structure Survey was an enumeration of all agricultural holdings with no sampling. Only the Survey of Agricultural Production Methods was implemented as a sample. Random sampling was applied, 3,475 enumeration districts were selected from the 13,897 total. The enumeration Districts were ranked randomly within the counties (NUTS3 regions) and each fourth was selected for the Survey on Agricultural Production Methods. Within the selected survey Districts all agricultural households were enumerated. No sampling was applied for the holdings in the non-household sector.

Applying this methodology the results of 2010 Survey on Agricultural Production Methods can be linked to the data obtained from 2010 Farm Structure Survey at the individual holding level as it is regulated by the EU legislation.

Collection Method
All the enumerators received a pre-printed list of addresses. The task of the enumerator was to move house to house to check whether the addresses were correct and the persons living there were engaged in agricultural activity or not. Any differences to the pre-printed information had to be noted and recorded.

The enumerators met three types of respondents concerning agricultural production: households with agricultural holdings, households engaged in agricultural activity but below the thresholds, and respondents not engaged in any agricultural activity (for example households without any agricultural activity, churches, shops, schools or other institutes etc.). The enumerators visited around 2.3 million addresses during the implementation period. Questions had to be asked from an adult person (holder, spouse or family member of holder, manager) being able to give reliable answers.
If the enumerator did not find anybody on the spot who could answer properly, he/she had to fix another date for the visit. If the respondent was not at home, the enumerator left a note with the date of his next visit. After three unsuccessful visits he/she had to report the case to the supervisor, just like cases when the respondents refused to answer.

**Questionnaire(s)**

EU Regulations require information on holding location and geo-coordinates, legal status, ownership and tenancy, land use and crops grown, irrigation, livestock, organic farming, machinery (mandatory in 2013 FSS), renewable energy installations, other gainful activities, socio-economic circumstances (full and part-time farming), labour force (family, non-family, contractors), agricultural and vocational training of the manager, inclusion in rural development support programmes, soil tillage methods, crop rotation, and erosion protection, livestock keeping places and keeping methods, animal grazing, manure application and manure storage and treatment facilities, maintenance and installation of landscape features.

Hungary included additional items on: Purpose of the agricultural production; buying and selling land area, land area by location; Agricultural services provided; Additional indicators on agro-engineering. In order to further simplify the data collection system and reduce the respondent burden in 2010 the regular survey questionnaires on Land Use and Planted Area in May and on Livestock in June were incorporated in the Agricultural Census both for the agricultural enterprises and for the private holdings.

The 2010 Agricultural Census used three questionnaires, two for holdings in the household sector - with (8 pages) and without SAPM (6 pages) questions, and one for agricultural enterprises. The questionnaire for agricultural enterprises was nine pages as it included the questions of the agricultural census, the Survey of Agricultural Production Methods, and the 2010 Land Use and Planted Area and Livestock surveys. All questionnaires were printed on paper and also made available on the Internet in Excel format. While the content was the same, there were differences in the order of the questions.

The Hungarian Central Statistical Office is authorized to use administrative data sources. Data were provided to the HCSO in electronic format suitable for statistical use. In case of the following topics administrative data were included directly to the database: Location of the holding (2 characteristics), Area subject of subsidy payment (5 characteristics), Rural development measures (12 characteristics), Organic farming (17 characteristics), Producing quality vines (1 characteristic).

**Controls to Minimize Non-Sampling Errors**

Throughout the Census project a multilevel quality assurance system was implemented. Enumerators were familiar with the survey Districts in which they worked, their training contributed to the high quality of the data to a great extent.

The Census-team compiled the instructions for surveyors containing the unambiguous description of the agricultural concepts. A quality assurance system were developed which main element was the list of the most important validation rules to be applied by supervisors during the assessment of the questionnaires. If the questionnaires included any kind of unreliable or erroneous items, the survey supervisors had to give it back to the enumerator for correction.

**Innovative Methodologies**

Data from administrative sources used in order to reduce the response burden.

9. **Data Entry, Edits and Imputations, Estimation and Tabulation**

All the data entry applications related to the Census were developed by the IT Department of the in the framework of uniform Data Entry and Validation System run by the Central Statistical Office. The staffs of the directorates and the central office were responsible for data entry.

Logical and arithmetical coherency within and between tables was incorporated into the data entry program. Four categories of error levels were handled during data entry phase as follows: (1) less serious errors only for information; (2) errors can be accepted, but justification is needed; (3) only authorized survey administrators can accept serious errors; (4) unacceptable errors must be corrected immediately, the data entry only can be carried on after correction.
The data entry system stored the identification code of the person who carried out the data entry to make it possible to monitor the quality of data entry per persons. Only correct questionnaires were accepted in the central database.

The individual data and the calculated aggregations were confronted with earlier information and statistics from other sources. The statisticians of the Rural Development, Agriculture and Environment Statistics Department were responsible for data processing, estimation, and producing the tables for publication. Data were entered and stored in an Oracle database.

10. Data Dissemination and Use
The preliminary data were released at a press conference on 1 December 2010. It can be found on the website of the Hungarian Central Statistical Office in a PDF format (www.ksh.hu/?lang=en). More detailed but still preliminary data were published in July 2010. Final data were published in several volumes in 2012. The Census information is mainly available on the Internet. The statistics are available on the country, region, county, and by region NUTS1, NUTS2, NUTS3 and some of them at the settlement level NUTS5.

11. Census Data Quality
As many validation rules as possible were incorporated in the data entry application and after data entry the micro- and macro-data were analysed thoroughly, and confronted with other available agriculture statistics.

Validation of the data was made from several aspects. Data were compared with the results of the Agricultural Census of 2000, Farm Structure Surveys of 2003, 2005, 2007 and other statistical surveys such as crop and livestock surveys, and the Institutional Labour Survey of Enterprises and Budgetary Institutions.

The Census results met the expectations. The 2010 results have proved to be of good quality, however, the aggregates of various land areas cover only the area that can be connected to the agricultural holdings.

12. Data Sources

Final report: http://ec.europa.eu/eurostat/documents/749240/749313/HU_NMR_FSS_2010.pdf/20425806-6e3c-469d-81c7-34f5021a05b

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