
FARM STRUCTURE SURVEY 2007

NATIONAL METHODOLOGICAL REPORT

November 2008

Member State: FRANCE

Résumé

En France, l'enquête "structure 2007" s'est déroulée d'octobre 2006 à novembre 2008 pour l'ensemble des étapes de réalisation, de la préparation à la publication des résultats.

Toutes les exploitations agricoles, au sens du recensement 2000, sont dans le champ de l'enquête. C'est le même échantillon qu'en 2005 qui a été enquêté en 2007, soit au total, 77 774 exploitations interrogées par enquêteur en France Métropolitaine et dans les départements d'outre-mer, soit 13.3% des exploitations agricoles françaises. La livraison des données individuelles à EUROSTAT porte sur 72 908 dossiers, c'est à dire les exploitations ayant eu une production en 2007.

La réalisation de l'enquête "structure" a été confiée au Service de la Statistique et de la Prospective (SSP) qui est le département statistique central du Ministère en charge de l'agriculture (MAP). Le service central est en charge du tirage de l'échantillon, de la rédaction du questionnaire et des instructions, de la formation des services régionaux, du contrôle final de la qualité des données recueillies et de la première publication des résultats. Le SSP s'est appuyé sur ses échelons déconcentrés spécialisés, les services statistiques régionaux (NUTS 2) d'information statistique et économique (SRISE). Les agents permanents locaux n'étant pas assez nombreux pour supporter la charge de travail que représente l'enquête, il a fallu recruter et former quelque 1 100 personnes non permanentes (enquêteurs). Les SRISE, outre la formation et l'encadrement de la collecte sont chargés de l'acquisition des données et du premier niveau de contrôle.

L'enquête s'est déroulée en 6 grandes étapes : la préparation, le recrutement de personnel temporaire, la formation, la collecte, la validation des données et leur diffusion.

La collecte et les retours sur le terrain pour vérifications se sont déroulés entre le mois d'octobre 2007 et le mois d'avril 2008. La phase de contrôle-validation a été réalisée au niveau régional et national jusqu'au mois de juillet 2008.

La diffusion des premiers résultats de l'enquête a débuté au mois d'octobre 2008 par la publication d'un quatre pages Agreste Primeur numéro 215.

En parallèle, les chiffres sont stockés dans la base de données DATAGRESTE du SSP et un certain nombre de résultats sous forme de tableaux sont mis à disposition du public sur le site Internet du Ministère en charge de l'agriculture

<http://www.agreste.agriculture.gouv.fr/>

A partir des résultats définitifs, le département statistique central a pris en charge la réalisation des produits standard de chiffres bruts pour l'ensemble des échelons géographiques (Chiffres et données Série Agriculture avec CD-ROM à publier en décembre 2008).

Les services régionaux publient également sous des formes diverses les résultats de l'enquête dans des documents Agreste (tableaux, cahiers, mémento...).

L'ensemble du travail de diffusion sera achevé en fin d'année avec la livraison des données individuelles à EUROSTAT en octobre ou novembre 2008.

Summary

(as drafted by the French authors)

In France, the farm structure survey 2007 (FSS2007) has been carried out from October, 2006 till November, 2008 including all the steps from preparation to results dissemination.

All the farms, within the census 2000 definition, are in the field of the survey. It is the same sample, as in 2005, which was surveyed during 2007 survey. A total of 77 774 farms has been questioned by investigator in Metropolitan France and in the overseas departments (DOM), i.e. 13.3% of French farms. The delivery of the individual data at EUROSTAT relates to 72 908 files, only farms having had a production into 2007.

FSS2007 realization was entrusted to the "Service de la Statistique et de la Prospective" (SSP) which is the central statistical department of the Ministry of agriculture (MAP). The central service is in charge of sample drawing, drafting of the questionnaire and the surveyors' instructions, training of the regional services, final quality control of the data collected and the first publication of the results. The SSP was assisted by its specialized decentralized levels, the regional statistical services (NUTS 2) of statistical and economic data (SRISE). The local permanent agents not being enough numerous to support the workload which the investigation represents, it was necessary to recruit and train some 1 100 non permanent persons (investigators). The SRISE, in addition to the training and management of the data collection are in charge of the data acquisition and the first level of control.

The investigation proceeded in 6 great steps: preparation, recruitment of the temporary staff, training, data collection, data validation and data dissemination.

Main data collection and the complementary surveys in order to proceed to field checks were carried out between October 2007 and April 2008. The step of control-validation was carried out at the regional and national level until July 2008.

The diffusion of the first survey results began in October 2008 by the publication from one four pages "Agreste Primeur" number 215.

In parallel, the figures are stored in the data base "DATAGRESTE" of the SSP and main results are stored as tables on SSP website (free of charge)

<http://www.agreste.agriculture.gouv.fr/>

From the final results, the central statistical department dealt with the realization of the standard products of rough figures for the whole of the geographical levels ("Chiffres et Données Série Agriculture" with CD-Rom to be published in December 2008).

The regional services also publish in various forms the survey results in "Agreste" documents (tables, books, memorandum...).

The whole dissemination will be completed at the end of the year with the delivery of the individual data at EUROSTAT in October or November 2008.

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1 Introduction

The 2007 Structure Survey is the third such intercensal survey, following those of 2003 and 2005.

1.1. *Background, context*

Exhaustive knowledge of the structure of agricultural holdings first became available after the Agricultural Census carried out in 2000. The goal of the Structure Survey is to update the data on the structure of agricultural holdings - size, legal status, type of farming, population and production, and their development – in between censuses, at both national and regional level.

Cooperation was significant for the 2000 Agricultural Census, which was the first of the series. The directorates of the Ministry of Agriculture, Food, Fisheries and Rural Affairs (MAAPAR) and the survey's users monitor the work and are consulted before the survey takes place, via a users committee.

1.2. *National law*

The 2007 Structure Survey was entrusted to the "Service de la statistique et de la prospective"¹ (SSP), which is the central statistical department of the Agriculture Ministry, with the support of its regional statistical services (NUTS 2).

The 2007 Structure Survey meets a Community requirement:

- ✚ Council Regulation (EEC) No 571/88;
- ✚ Commission Decision No 98/377/EC of 18 May 1998 amending Annex I to Council Regulation (EEC) No 571/88;
- ✚ Commission Regulation (EC) No 143/2002 of 24 January 2002 amending Annex I to Council Regulation (EEC) No 571/88 in view of the organisation of the Community surveys on the structure of agricultural holdings in 2003, 2005 and 2007
- ✚ Regulation (EEC) No 1444/2002 on the definitions of the variables;
- ✚ Regulation (EEC) No 204/2006 on the non-existent and/or non-significant characteristics.

The survey is included in the French public services' programme of statistical surveys for 2007.

The opinions of the National Committee on Computerisation and Freedoms (CNIL) and of the National Statistical Information Council (CNIS) are essential to this operation.

The CNIL's favourable opinion relating to the automated processing of the 2007 Farm Structure Survey was delivered in an Order of 9 August 2007, published in the Official Journal of the French Republic of 29 August 2007.

¹ The "Service de la statistique et de la prospective" (SSP) was created on 1 July 2008, as part of the general overhaul of public policies. It has taken over all the activities of the "Service central des enquêtes et études statistiques" (SCEES) and as such remains the central statistical department of the Agriculture Ministry and a member of the French public statistics system.

The CNIS is an advisory body in which the different social partners are represented. It gives opinions on the advisability of statistical operations and certifies that the conditions of implementation guarantee that the rules are being properly complied with. The committee's compliance notice in respect of the label no. 216 / D131 of 3 February 2005, notified on 7 February 2005, covered both the 2005 survey and its renewal in 2007. As the 2007 Structure Survey is acknowledged to be of general interest, it is compulsory. The Minister for Agriculture and Fisheries and the Minister for Economic Affairs and Industry have issued an approval number (2007 A 107 AG) for this operation. It is valid for 2007.

In accordance with the Act on Statistical Confidentiality (51-711 of 7 June 1951), the data collected are confidential. Interviewers and statisticians are bound by professional confidentiality. The law requires the farmers to reply accurately to the questions. The data collected are confidential, but farmers have the right to access and correct their declarations (Information Technology and Freedom Act (78/17 of 6 January 1978)) Proceedings are initiated against farmers who fail to respond or provide deliberately misleading information, the final penalty being an administrative fine.

2 General characteristics

Surveys on the structure of agricultural holdings are intended to meet three objectives:

- ✚ to learn how holdings are structured and monitor developments;
- ✚ to monitor the development of agricultural production;
- ✚ to keep track of the agricultural population.

The main types of information collected concern:

- ✚ Knowledge of the structure of holdings and measurement of its development:
 - ❖ the legal form of holdings;
 - ❖ type of tenure;
 - ❖ area of holdings;
 - ❖ economic size of holdings measured by standard gross margin (estimated from data on the area and livestock);
 - ❖ type of farming (estimated from data on the area and livestock).
- ✚ Knowledge of agricultural production and measurement of its development
 - ❖ measuring holdings' individual fields;
 - ❖ measuring the number of livestock, poultry production.
- ✚ Keeping track of the agricultural population:
 - ❖ characteristics of the family working on the holdings (training, working time, etc.);
 - ❖ measuring the amount of work needed to run the holding: family labour, permanent, seasonal or temporary employees.

These data, when compared to those collected for previous agricultural censuses or structure surveys make it possible to, for example:

- ✚ measure the concentration of agricultural activity;
- ✚ follow the development of the legal form of holdings (GAECs (agricultural groups for joint farming), companies, etc.);
- ✚ follow the evolution of speculation (crops and livestock);
- ✚ evaluate structural policy, for example:
 - ❖ monitor the future of agricultural holdings:

- ❖ **estimate the number of holdings which disappear, are vacant or are taken over, and the appearance of new holdings originating from existing holdings.**

2.1. National characteristics and reference period

The survey covered 74 220 holdings in continental France, and 3 554 in the overseas *départements*, a total of 77 774. This is a representative sample of the holdings interviewed for the 2000 Agricultural Census. The holdings were drawn at random and may be quite small, provided that they produce agricultural goods, reach a certain threshold (in terms of area, number of livestock, volume of production, etc.), and are independently run. They are holdings which were already questioned in 2005.

The reference period for the survey is the agricultural year from 01/11/2006 to 31/10/2007 for all questions, except for numbers of livestock present, which are recorded on the day of the interviewer's visit.

2.2. Questionnaires

The Structure Survey questionnaire makes it possible to determine the agricultural population working on the farm (the farmer, his family, paid family and non-family labour) and the means of production (breakdown of areas, plant and livestock products, buildings and equipment, etc.). To a lesser extent, the Structure Survey also makes it possible to bring together associated activities, namely the processing of products on the farm, reception and tourism in a rural environment, contract services, etc. The questionnaire does not contain any questions on the values of financial results or income since these subjects are reserved for the Agricultural Accounts and the Agricultural Accounting Information Network (Rica) operations.

The questionnaire complies with all European obligations. However, additional national questions have been added: inventory of sprays used (page 6), signs of quality for products (page 10), proportion of turnover accounted for by diversification activities (page 10), management for the system of taxation, VAT, sickness insurance, aid facilitating establishment and modernisation, long-term agricultural contracts, Internet use, the year the type of farming was chosen, succession (page 11) and management of occupational waste (page 12).

There are 2 versions of the survey structure questionnaire. One version is intended for continental France, the other for the overseas *départements*, i.e. Guadeloupe and Martinique, French Guyana and, Reunion (cf. versions of the questionnaire in Annex 1).

The questionnaires also have 20 questions applying to regions on pages 5, 6 and 7. These are left to the discretion of local units, which may choose to use them or not, depending on their needs.

The questionnaire's length has been restricted to 12 paper pages maximum to avoid over-long interviews.

The 2007 Farm Structure Survey is structured as follows :

- ✚ The first three pages contain a set of questions (common to all the surveys) designed to elicit information on any structural changes in the holding in question since 2005. This information makes it possible to decide whether the holding should be kept in the sample and what extrapolation coefficient to assign to it;

- ✚ the following pages are allocated to the questions which are relevant to the survey in question, broken down by subject:
 - ❖ main crops (page 4);
 - ❖ other information on the land (page 5);
 - ❖ irrigation and sprays (page 6);
 - ❖ livestock; rearing (page 7);
 - ❖ population and family labour (page 8);
 - ❖ non-family labour (page 9);
 - ❖ valorisation and diversification activities (page 10);
 - ❖ management (page 11);
 - ❖ management of occupational waste (page 12).

Page 12 also contains the list of PACAGE identification numbers used by the holding in its dealings with the bodies responsible for collecting their land-area declarations and paying the CAP subsidies. The aim is to be able to link the structural information collected in the survey and the administrative information (area declarations, amounts of premiums, etc.).

Only the first and last pages of the questionnaires are pre-printed, on the basis of the information existing in the SSP's Updated Sampling Frame, which results from a partial updating of the units on the basis of post-census surveys.

The following are pre-printed:

- ✚ name and address of the headquarters of the holding to be surveyed;
- ✚ name and address of the head of the holding to be surveyed;
- ✚ name and address of the farmer (REF - economic and financial manager) of the holding to be surveyed;
- ✚ the name, legal form and SIRET number of the various structures connected with the holding to be surveyed (pre-printed if available);
- ✚ the list of known PACAGE numbers.

3 Survey methodology

The methodology employed for the 2007 survey was very similar to that employed in 2005. The chief innovation was an experiment in partially pre-completing the questionnaires on the basis of the area declarations (subsidy application dossiers).

3.1. Organisation of the survey

The survey is designed and run by the SPP, with data collection and first-level validation being entrusted to the regional delegations.

3.1.1 National organisation

Within the SSP, national responsibility for the survey lies with the Sub-directorate for Agricultural, Forestry and Agri-food Statistics (SDSAFA), and more specifically with its Office of Statistics on Agricultural Holdings and the Environment (BSSAE), the national unit responsible for the operation. The preparation and running of the survey in the overseas *départements* is conducted by the unit coordinating the agricultural statistics for the overseas *départements*, in conjunction with the BSSAE.

In addition to preparing the survey, and auditing and checking the survey at national level, these two bodies store the surveys and transmit the individual data to Eurostat.

Other units or persons from the Ministry of Agriculture are also asked to help. Thus, the Administrative Bureau of the Statistics Department is responsible for budgetary aspects, such as the delegations of appropriations

to the regional services, and regulatory aspects (employment contracts, for example). The publications office is in charge, in particular, of page makeup and printing the documents, duplication, sending out the materials, relations with the printers, etc. IT personnel from the Ministry of Agriculture's computer centre are heavily involved as managers of the network for the transmission of data linking the two geographical levels. These units work in constant collaboration with the statistics and IT teams.

Moreover, a users committee specific to the 2007 Structure Survey has been set up. It includes the main Directorates of the Ministry of Agriculture, Food, Fisheries and Rural Affairs, the National Institute for Agronomic Research (INRA) and the Permanent Assembly of the Chambers of Agriculture (APCA), and it gave its opinion on the definitive questionnaire before preparation of the survey began.

In order to carry out this operation, a technical group comprising national and regional statisticians was set up for the purpose of:

- ✚ finalising the questionnaires and instructions after consulting users;
- ✚ conducting test interviews;
- ✚ creating teaching tools for the regional services in order to train interviewers;
- ✚ creating tools for checking responses both at regional and national level.

3.1.2 Regional organisation

The regional statistical and economic information services (SRISE) are responsible for recruiting and training interviewers. These services plan and monitor the work of the interviewers, ensure collection and first-level validation of the data and publish regional results once the survey is declared validated.

3.2. Survey timetable

The survey took place in six major stages: preparation, recruitment of temporary staff for the collection phase, training, data collection, data validation and data dissemination.

Operation	Date
Preparation of the survey	October 2006 to October 2007
Recruitment - Training	September - October 2007
Data collection – Feedback	October 2007 - February 2008
Checking and validation of data	February 2008-July 2008
Definitive archiving in the DATAGRESTE database	August 2008
Dissemination: First publication, 4 pages, Agreste Primeur	October 2008
Dissemination: Delivery of file containing individual data to Eurostat – Methodological report	October - November 2008

Preparation began in October 2006 with the creation of the various working groups. It was completed in February 2008 with the delivery of the tools for checking responses.

Interviewers were trained with teaching tools made available to the whole of the network. Depending on their prior experience, it took from 1 to 3 days to train the interviewers for this survey.

Collection in the field took place from October 2007 to February 2008.

Data capture took place as collection proceeded within the regional services. The process is one of capture/control characterised by the activation of a set of controls at the time of capture. This stage was accompanied at regional level by a final validation of the data using a set of data control procedures, from February 2008 to July 2008.

After the data were validated at national level, they were archived in the DATAGRESTE database in August 2008. The first publications were completed by October 2008. Dissemination of the data from the Structure Survey will extend, essentially, until the end of 2008.

3.3. Preparation of the survey

Preparation of the survey was handled exclusively by the statistical service (SPP) of the Agriculture Ministry.

3.3.1 Context and population

The population comprises all French agricultural holdings as recorded in the 2000 Agricultural Census and subsequently updated by surveys and/or one-off operations for the preparation of themed surveys.

3.3.1.1 Definition of an agricultural holding

The statistical definition of an agricultural holding has not changed since 1955. It now co-exists with other administrative or statistical definitions, namely the legal definition of farming (farming by nature or by extension), social approach (sickness insurance and pension schemes), aid files and the definition of the general statistical list.

An agricultural holding is defined by Decree 2000-60 and by the Order of 24 January 2000 prescribing the census. In terms of agricultural statistics, it is an economic and production unit which simultaneously meets three preconditions. It produces agricultural products. It is at least of a certain size in terms of area, livestock numbers, production, etc.. Finally, it is subject to independent everyday management.

The definition of an agricultural holding used for the Structure Survey is the same as the one used for the 2000 Agricultural Census.

3.3.1.2 Divergences from the European Union's variables

Certain characteristics diverge from the European Union's standard variables. Some relate to aspects for which France has requested and obtained an exception. In the case of other points, which are limited in number, the Community requirement is complied with by reprocessing the information collected.

France has been allowed two exceptions.

- ✚ Christmas trees are not considered to be agricultural products. They are classed with the holding's woodlands and forests.**
- ✚ Breeding cocks are not shown with layer hen numbers but with broilers.**

As regards the other points, France's treatment does diverge in places, ranging from differences of vocabulary to the problem of content.

In France, the farmer is called the economic and financial manager (REF), the party who enjoys the operating profits and suffers the operating losses. This may be either a natural or a legal person. This farmer, or economic and financial manager, is not the reference person. The reference person is the farm manager, defined as the person in charge of the day-to-day management. Thus we are interested in the family of the farm manager and not that of the farmer. This divergence does not pose any problem in the case of individual holdings, which represent 73 % of all holdings. In the case of the remaining 17 %, complex treatments are necessary to re-transcribe these data in accordance with Community rules when the file is relayed to Eurostat.

The same applies where the holding is farmed on behalf of another natural person.

The recording of the holding's labour force, whether family or not, is identical whatever the status of the holding. As far as Eurostat is concerned, in the case of holdings with company status (EARL, SCEA, SA, SARL or other legal personality, or statuses 3, 5, 6 and 7), the co-farmers and their families appear as non-family labour.

The "mushrooms" variable is measured in terms of production and not in terms of area. A correspondence key has therefore been used to meet the Community constraint.

France has no areas which are subject to set-aside incentive schemes and which have been converted to permanent pasture, meadow, wooded areas, etc.

3.3.2 Sampling plan

Let us reiterate that the Structure Survey works by following a permanent sample of holdings taken from the latest Agricultural Census. To cover the time between the last census in 2000 and the next one in 2010, this sample will be interviewed in 2003, 2005 and 2007. The "permanence" of the sample is guaranteed by specific rules governing which holdings are to be interviewed if an event occurs which affects a unit of the sample (absorption, partial break-up, etc.). At the request of certain local units, the sample was reinforced for the 2005 Structure Survey. In 2007 the sample is strictly identical to the 2005 sample, apart from those holdings no longer operating.

3.3.2.1 Scope of the survey

All the holdings recorded in the 2000 Agricultural Census are part of the universe from which the sample is drawn. An effort was made with the local units to identify the holdings to be avoided during the interview phase, i.e. particular holdings which work in extremely different ways from other holdings (referred to as "atypical" holdings).

3.3.2.2 Stratification

Stratification is basically determined from two variables: OTEX 1896 (an 18-digit number describing the type of farming calculated from MBS 1996 coefficients) and the CDEX 1096 variable (a 10-digit number indicating the economic size class).

Before the sample is drawn from each stratum, the holdings are sorted using OTEX 1896 as a major criterion, and then by MBS as a minor criterion.

3.3.2.3 Determination of an exhaustive stratum

In order to improve the precision of the estimators, an exhaustiveness threshold was defined for each *département* (NUTS 3) to ensure that all units with a very heavy weighting within a given *département* are interviewed. As a general rule, this threshold was set at 250 ESU. However, for certain *départements* and certain OTEX values, this threshold was raised because of the number of holdings concerned.

3.3.2.4 Determination of the number of questionnaires and the variables of interest

The number of questionnaires and the variables of interest were determined by multi-stage iteration taking the following constraints into account:

- ✚ the number of questionnaires had to be at least 300 but no more than 1 200 per geographic unit (NUTS 3);
- ✚ the total number of questionnaires for all of the metropolitan *départements* was to be approximately 84 000 (in Annex 3, page 3, this limit is set at 75 000, which corresponded to the domestic budget ceiling but which, ultimately, was insufficient to meet the accuracy requirements for the three intercensal surveys; the budgetary ceiling was therefore revised upwards);
- ✚ accuracy had to be good for a certain number of variables representative of each *département's* production, and bearing in mind the anticipated decline in the number of holdings between 2000 and 2007.

The number of questionnaires per stratum for each *département* was determined using a Neyman allocation. The number of questionnaires was then increased in the strata where the extrapolation coefficient was too high.

Of the 84 294 holdings selected for the first survey, 77 774 remain today, i.e. a drop of 6 520, although the total UAA (utilised agricultural area) and livestock numbers have not fallen accordingly. This reflects the trend towards concentration of means of production.

Most of these changes are noted by the interviewer in the course of his survey, at individual holding level, and are recorded in the first three pages of the questionnaire. Strict rules are then applied to determine the holdings remaining in, joining or leaving the sample and to determine the extrapolation coefficient. In addition, interviewers are informed of holding movements ascertained from other sources (updating of the sample survey basis by other surveys or administrative sources):

- ✚ holdings which existed when the sample was selected and which no longer exist (as discovered by the interviewer) represent their weighting on cessation of their activity
- ✚ holdings which have changed farmer (as discovered by the interviewer) but which are otherwise unchanged are questioned with the same extrapolation coefficient
- ✚ holdings which have created another holding by contributing land and/or livestock: both holdings are questioned with the original extrapolation coefficient
- ✚ holdings which have merged: it is the result of the merger that is questioned. The holding which contributed the most in terms of means of production is identified, and that holding's extrapolation coefficient is applied to the whole
- ✚ new holdings, whether with livestock or with cleared land, are identified thanks to administrative data (mandatory declarations), but they are few in number.

For most *départements*, the variable of interest for allocating questionnaires is the standard gross margin (SGM). However, for a number of *départements* (91, 96², 24, 33, 09, 12, 38, 73, 74, 11, 30, 34, 66, 04, 05 and 84), the variable of interest is the utilised agricultural area (UAA).

² *Département* 96 does not exist as such. It is an amalgamation of three *départements* (92, 93 and 94).

In response to local requests the sample was reinforced in 2005, being increased to 84 294 holdings out of a total of 698 535 recorded in the 2000 Agricultural Census, or 12.1%. These holdings existing at the time of the census have given birth to new holdings, which explains how the total number of holdings in the 2005 Structure Survey came to be 86 126. In 2007, 77 091 holdings active in 2005 were interviewed, together with 683 others created by the former, thus giving a total of 77 774 holdings interviewed.

3.3.2.5 Expected accuracy

The table below contains the variation coefficients for certain variables at the level of metropolitan France.

Metropolitan France: variation coefficients for certain variables

	(%)		(%)
Utilised Agricultural Area	0.26	Total bovines	0.49
Cereals	0.34	Dairy cows	0.62
Industrial crops	0.52	Nurse cows	0.77
Permanent grassland	0.52	Total pigs	1.75
Fodder	0.55	Total sheep	1.65
Vineyards	0.68	Goats	4.07
Perennial crops	1,71	Total poultry	2,62

3.3.3 Testing of the questionnaire

As the questionnaire for the 2007 Structure Survey is very similar to that used in the last census, no additional testing was carried out in the field on the traditional parts. Only the new questions were tested in the field.

3.3.4 Information and communication with the respondents

As it depends on the local context, the choice of the means of communication with respondents was left to the local units.

The technical working group, working at national level, prepared a form letter for announcing the survey (cf Annex 3 to this report), a leaflet describing the survey, which was made available to the local units, and a folder on statistical confidentiality and the obligation to respond.

3.4. *Sample, data collection*

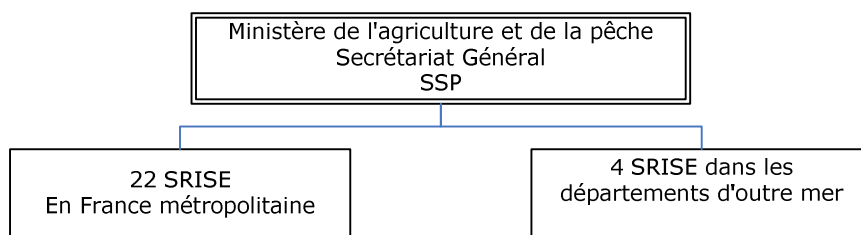
3.4.1 Creating the sample

In each stratum, holdings are sorted by type of farming and economic size. Holdings are selected randomly until the number of questionnaires expected for the stratum is reached.

3.4.2 Organising collection

The 2007 Structure Survey consisted exclusively of face-to-face interviews.

To this end, in the field the survey is supported by the Ministry of Agriculture's specialist units, namely the 26 regional (NUTS 2) Statistical and Economic Information Services. They conduct the survey in the field via the network of interviewers which they use for the entire programme of agricultural statistical surveys.



As the local permanent officials were too few to cope with the extra workload generated by the Structure Survey, additional non-permanent staff placed under the authority of the head of the statistical service had to be recruited. Thus, over 1 100 interviewers were recruited and given the task of collecting information from the farmers during a direct interview and transcribing the information onto questionnaires. Once completed, the questionnaires are sent to the regional statistical department.

The interview lasts from 20 minutes to 1 1/2 hours.

3.4.3 Use of administrative data

The SSP used the data provided in the area declarations made by the farmers when applying for CAP subsidies. These declared areas were communicated to the interviewers via an information sheet for each farm included in the sample. The interviewer was required to get these data validated by the farmer. Ultimately, as in all statistical surveys, it is the reply given in the interview that is used.

This experience revealed serious difficulties in the use of the administrative data:

- ✚ Less than 50% of the data was available at the time of launching of the survey in September 2007.
- ✚ The crop nomenclatures are not identical and there are difficulties in switching from one to another,
- ✚ The areas recorded in the CAP declarations are net, whereas in the Structure Survey they are gross.

3.4.4 Checking data

Data checking, the last step before dissemination, began during the collection stage on the farmers' premises. It then continued throughout the processing chain.

3.4.4.1 Field checks

Field checks are performed at two levels: by the interviewer and by the head of the regional statistical service responsible for the survey.

The interviewer's role is to verify the totals and consistency directly at the respondent's premises. After the interviews, the interviewer must check the additions and carryovers and make sure that the questionnaires are complete, consistent and legible. Once the questionnaires have been checked, the interviewer sends them to the regional service.

3.4.4.2 Capture/control in the region (NUTS 2)

An initial, visual check is carried out by the staff of the regional units, particularly at the beginning of the collection process. The questionnaires are then keyed in using capture/control software developed centrally by the SSP and made available to the regional Statistical and Economic Information Services (NUTS 2). This computer application allows responses to be input while, at the same time, activating a series of checks.

There are three types of checks: minor, major or blocking. A minor check is a warning which does not necessarily require any correction. Example: an area which is too small for the numbers of bovine animals. A major check requires correction, but not necessarily immediately. The questionnaire can continue to be keyed in, but the dossier contains a specific indicator which excludes it from further processing operations. Example: an erroneous total. Finally, a blocking test requires immediate correction. One instance of this is when a capture code does not belong to the list of accepted codes.

When the capture/control programme is written, a proper balance needs to be found between the efficiency of the checks and their sensitivity, which, if excessive, would increase capture times. This task is all the more tricky since there is no indicator which measures, for each minor check, the number of corrections made compared to the number of times when the keyboard operator has carried on regardless. The best possible design is sought when the software is tested.

For example, for the 2007 Structure Survey, 666 checks were defined in the capture-control tool for the national part of the questionnaire. Of these, 366 were minor, 265 were major and 35 were blocking checks.

3.4.4.3 Checks on aggregated data

Checks on aggregated data are a means of improving the quality of results. They supplement the system set up for collecting the data, namely training, field checking and capture/control. They spot aberrant values, ensure that the interviewer applies rules systematically, detect errors missed by the capture/control programme and flag when instructions have not been complied with.

A tool for checking survey data, usable both nationally and regionally, was developed in the same language as the capture-control programme.

With it, inventories, ratios and pre-defined or user-programmed lists can be obtained. In this way, each region was able to define the most suitable checks for the context of local agriculture. All these checks were used at NUTS 3 level.

Main functions used:

- ✚ verification of the "forced" checks during input in order to spot potential systematic errors;
- ✚ list of the X largest values for each quantitative variable, enabling aberrant values to be spotted;
- ✚ comparison, for each farm, of the data common to the 2005 and 2007 surveys, and identification of suspect trends;
- ✚ comparison between 2005 and 2007 of the aggregated results at "département" level, and identification of suspect trends.

3.4.4.4 Transmission of information to the central level

Subsequent to completion of the checks conducted at NUTS 3 level by the regional services, themselves operating at NUTS 2 level, all of the questionnaires are sent to the central level for analysis, via the Ministry of Agriculture's secure transmission network. IT personnel from the Ministry of Agriculture's computer centre are thus also heavily involved in this procedure as managers of the network for the transmission of data linking the two geographical levels.

If anomalies or inconsistencies are still detected at central level during the final phase of checking, the regional services are asked to confirm or, if necessary, modify the information which is considered suspect. Once corrected, the individual questionnaires are then retransmitted to the central level.

3.4.5 Total non response

Out of the 77 754 holdings surveyed in the original sample (74 220 in metropolitan France, and 3 554 in the overseas *départements*), plus 20 newly created holdings, some refusals were met with during collection. Generally, when an interviewer meets with a refusal the head of the service or a permanent member of staff intervenes. In general, a telephone discussion is enough to change the farmer's mind about his refusal and the questionnaire is completed normally.

To ensure that samples can be followed up, replacements of holdings are prohibited. This is because maintaining a permanent sample from one survey to the next is crucial for an accurate measurement of how structures are evolving.

Ultimately, the file does not include any total non-responses.

All the missing variables were either obtained after an additional survey conducted by the permanent staff of the services or were obtained from the administrative declarations. These latter cases represent less than 0.1% of the holdings questioned.

3.5. *Processing of the data, analysis and estimation*

3.5.1 Methods for correcting and extrapolating missing data

If information is missing, the interviewer or local statistician may contact the respondent by telephone.

If this fails to obtain the information, the local statistician uses the administrative sources available within the competent Departmental Directorate for Agriculture and Forestry (CAP dossiers, etc.).

3.5.2 Estimation

Once the strata have been defined and the number of holdings per stratum to be surveyed have been determined, the following information per stratum is available:

N_h the number of holdings from the universe which belong to stratum h

n_h the number of holdings to be surveyed in stratum h.

The weighting of each holding to be surveyed in stratum h is equal to $\frac{N_h}{n_h}$, which is the holding's extrapolation coefficient.

It should be kept in mind that subsidiary holdings may be discovered (and therefore surveyed) during the course of the survey. As a result, the number of holdings which are actually surveyed (n'_h) will be equal to or greater than the number of holdings which were to be surveyed (n_h).

For stratum h (h varies from 1 to H in so far as we have defined H strata), if Y_{ih} is the value of variable Y for holding i (i being a holding on the list to be sampled) for stratum h , estimators of the average and total for variable Y in stratum h are constructed as follows:

the estimator for the average of variable Y in stratum h is

$$\hat{Y}_h = \frac{\sum_{i=1}^{n'_h} Y_{ih}}{n'_h}$$

the estimator for the total of variable Y is $\hat{T}_h = N_h \times \hat{Y}_h$

For the strata taken together, estimators of the average and total for variable Y in stratum h are constructed as follows:

the estimator for the average of variable Y is

$$\hat{Y} = \sum_{h=1}^H \left[\left(\frac{N_h}{N} \right) \times \hat{Y}_h \right]$$

the estimator for the total of variable Y is

$$\hat{T} = \sum_{h=1}^H \hat{T}_h$$

For the strata taken together, the estimated variance of the estimators of the average and total for variable Y is defined as follows:

$$\hat{V}(\hat{Y}) = \sum_{h=1}^H \left[\left(\frac{N_h}{N} \right)^2 \times \left(1 - \frac{n_h}{N_h} \right) \times \frac{s_h^2}{n_h} \right]$$

with $s_h^2 = \frac{\sum_{i=1}^{n'_h} (Y_{ih} - \hat{Y}_h)^2}{n'_h}$

The estimated variance of the estimator for the total of variable Y is derived from the formula:

$$\hat{V}(\hat{T}) = N^2 \times \hat{V}(\hat{Y})$$

The estimated relative precision of the estimator for the average of variable Y (expressed as a percentage) is:

$$pr(\hat{Y}) = \left(\frac{\sqrt{\hat{V}(\hat{Y})}}{\hat{Y}} \right) \times 100$$

The estimated relative precision of the estimator for the total of variable Y is equal to the estimated relative precision of the estimator for the average of variable Y .

3.5.3 Other types of errors

Errors are detected thanks to the various checking tools which are provided at regional level. The regional units are responsible for ensuring that errors in the questionnaires are corrected. Once the data are submitted to the central level, they are checked again. If further errors are detected at

central level, the regional unit is asked to carry out the additional corrections.

3.5.4 Evaluation of the results

At central level, an initial assessment is carried out thanks to the expertise of the Office for Plant and Forestry Statistics and the Office for Animal Statistics.

This assessment is carried out by comparing:

- ✚ certain data from the annual agricultural statistics. These are collated by the statistical services of each Departmental Directorate for Agriculture and Forestry. This is for data which concern statistics regarding land use and agricultural production in the *départements*: areas, yields, quantities harvested for plants, numbers of workers, average and total weights or quantities for animal production. Each *département* piece of data is the result of comparing and balancing data from surveys, administrative sources (subsidies, taxation, etc.), questions addressed to Chambers of Agriculture, trade associations, groups of producers, etc.;
- ✚ the results of Community livestock surveys or specialised surveys, such as those for orchards, vegetables, etc.

If variations of more than 8% are detected for certain common variables such as those regarding land area and livestock numbers, a more in-depth analysis is carried out, including referring the matter back to regional level if necessary.

4 Publication and dissemination

The first step was to make the data available to the whole agricultural statistics network by loading them into DATAGRESTE, SSP's database. They can then be accessed according to structural, geographical, agronomic and other criteria.

A series of pre-programmed tables was prepared centrally. This provides the agricultural statistics network with some uniform output at national, regional, or even *département* level.

the standard dissemination of the 2007 Structure Survey consists of:

- ✚ a 4-page "Agreste Primeur" (early results), No. 215, at national level, in October 2008;
- ✚ a 4-page "Agreste régionaux" (regional results);
- ✚ a national edition of "Chiffres et Données" (planned for December 2008), presenting the main results in table form;
- ✚ posting of national, regional and *département* tables on the website of the Ministry of Agriculture and Fisheries, with access free of charge:

<http://www.agreste.agriculture.gouv.fr/>

5 Annexes



Questionnaire
métropole

Questionnaire used in metropolitan France



Questionnaire DOM

Questionnaire used in the four overseas départements (DOM)



Secret statistique

Leaflet given to farmers by interviewers



Lettre aux
exploitants

Specimen letter notifying farmers of the visit of an interviewer.



Plan de sondage

Note on the selection of the sample. *This is identical to the 2005 note, as the same sample was questioned in the two surveys.*



Agreste_primeur_21
5

4-page publication

Double-click on the icons to open the documents