

**Federal Statistical Office  
of the Federal Republic of Germany**

# **NATIONAL METHODOLOGY REPORT**

## **2007 FARM STRUCTURE SURVEY**

**MEMBER STATE:** Germany

# **2007 FARM STRUCTURE SURVEY**

## **NATIONAL METHODOLOGY REPORT FOR GERMANY**

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## Summary

Survey period	Data collection for the 2007 Farm Structure Survey took place between January 2007 (compiling and printing the questionnaire) and June 2008 (excluding the procedures for reminding and warning late respondents and non-respondents ). Preparations for the 2007 Farm Structure Survey began in July 2005. The results should be available, both in printed form and on-line and/or on data carriers, in the last quarter of 2008.
Survey scope	As part of the comprehensive 2007 Farm Structure Survey, the characteristics of land use, livestock and workforce were surveyed (group concept, i.e., aggregated questions on manpower), together with holding structures and socio-economic relationships. Some of the characteristics were surveyed on a sample basis, so as to lighten the respondents ' workload. These included the sections on ownership and leasing, external sources of income, the creation and use of commercial fertilizers of animal origin, manpower (using the individual concept, i.e., data for each individual worker) and on incomes from gainful employment other than in agriculture, but directly connected with the holding.
Organisation of the survey	The Farm Structure Survey is a decentralized statistical tool. Coordination and technical and methodological preparations were made at the Federal Statistics Office (Federal Statistical Office), with the involvement of the Statistical Offices of the <i>Länder</i> . The preparations included preparation of the survey documents, plus explanatory notes, the integration of EU and national survey characteristics, the list of variables, and work relating to plausibility checks and tabulation. The printing of the survey documents and the organisation of data collection were the responsibility of the Statistical Offices of the <i>Länder</i> . They identified the holdings to be included in the survey using uniform criteria. For the characteristics to be surveyed, the Statistical Offices of the <i>Länder</i> used a standard automated program for the selection of sample holdings, whereby the sampling plan was drawn up in cooperation with the Statistisches Bundesamt. The authorities in the <i>Länder</i> examined the returns for completeness (i.e. the correct number of questionnaires and completeness of the data) and plausibility. Additionally, each <i>Land</i> was responsible for tabulation and producing the results (NUTS I). The programming work was the task of <i>Statistikverbund</i> , a joint group comprising representatives of all Statistical Offices of the <i>Länder</i> and the Statistisches Bundesamt.
Work schedule	<p>The work schedule for preparation of the 2007 Farm Structure Survey comprised the following steps:</p> <ul style="list-style-type: none"><li>○ development of the sampling design,</li><li>○ preparation of survey documents and of evaluation,</li><li>○ definition of the survey procedure,</li><li>○ preparations for data processing.</li></ul> <p>After completion of the preparatory activities, data collection took place. Once the completed questionnaires began to come in, work was started on data processing,</p>

creation of interim results and tabulation of the final results. There followed data analysis and the provision of the results to the users. The work procedures were not, therefore, always carried out consecutively, but were, to some extent, conducted simultaneously.

Preparation for survey implementation

The methodological work involved in preparing implementation covered data collection and preparation, compiling the questionnaire (including the explanatory notes) and the table programme, specifying the tables and plausibility and then the programming. In parallel, the population of survey units and the basis for the random sampling were determined. All of the survey units were assessed on the basis of the Register of Farm Holdings (*Farm Register*) and material from the 2003 Farm Structure Survey. Furthermore, for the purpose of preparing the survey, a survey organisation was developed and the employees of the Statistical Offices of the *Länder* and the field workers (interviewers) were trained and instructed in their tasks.

Random sample, data collection and data input

Pursuant to the Agricultural Statistics Act, which was the national legal basis for the survey, the representative part of the survey covered no more than 100 000 holdings and was constructed as a single-step (stratified) selection process. By way of preparation for the 2007 Farm Structure Survey, the consolidated material for the comprehensive 2003 Farm Structure Survey was arranged into 26 strata. Stratification by holdings' UAA and types of production (e.g. large animal stocks, special crops, market gardening) served as an approach for selecting what experience has shown to be a stable group of holdings for the sample. Stratification took place on a regional basis (each *Land*). Sampling was done by means of a "controlled selection" by the Statistical Offices of the *Länder* using a standardised automated selection process. Via this process, some 97 000 holdings were selected for the 2007 survey.

Data capture by the Statistical Offices of the *Länder* essentially took place by means of personal questioning by the survey offices and/or their personnel and by means of a postal survey. Administrative data for the agricultural sector were, essentially, used only for the groups of characteristics "land use" and "livestock". The data were only accepted if the administrative data correlated with the characteristics of the Farm Structure Survey and related to the same survey period. The collected data were entered at the Statistical Offices of the *Länder* either directly or following the use of an automated processing and plausibility program. In order to check the correctness of the data in the questionnaire, the data were first subjected to a targeted visual inspection by the Statistical Offices of the *Länder*. The data were then input into the data media. The basis for this was the uniform "data collection and test instructions" compiled automatically by the Statistisches Bundesamt. This was followed by the automated plausibility checks on individual holding data and the correction of individual data.

After conclusion of the plausibility checks, individual data were entered by the Statistical Offices of the *Länder* into an aggregated data record which was then dispatched via the decentralized transmission system operated by the Statistisches Bundesamt, which then used the data to compile the result at Federal

level.

Data processing,  
data analysis, and  
extrapolation

For the purposes of data processing and analysis, missing and/or incorrect data had first to be corrected. Missing or unclear values were supplemented by further written or telephone inquiries as well as by adjustments based on previous data or data for similar holdings. It was also possible to adopt data on individual holdings from administrative proceedings. For the sample holdings, the results of the 2007 Farm Structure Survey were calculated by means of free extrapolation of the data which had been checked for plausibility. The extrapolation factor is the reciprocal value of the sample. In order to ascertain random error (attributable to the sample), the result determined with the sample is subjected to error computation. For this, the simple relative standard error was used to measure the extent of the random error. Non-responses were included among non-sampling errors. These had to be taken into account in the extrapolation. However, a distinction had to be made between "genuine" and "false" non-responses. "Genuine" non-responses are holdings that existed during the survey period and should have been surveyed, but from which no replies were forthcoming. "False" non-responses are holdings which no longer existed during the survey period or were not part of a holding. In the case of "genuine" non-responses, the extrapolation factor had to be adapted. "False" non-responses must not affect the extrapolation factor. They are already part of the sample and cannot be replaced by other holdings.

# **1. Introduction**

## **1.1 Background and scope**

Farm Structure Surveys have been carried out as representative surveys on a bi-ennial basis since 1975. Additionally, some characteristics are usually surveyed every four years (comprehensive surveys). Since 1999, the survey has taken the form of an "integrated survey", meaning that all production and structural characteristics are surveyed simultaneously, in May of the survey year. When the organisational design was modified, the German name given to the survey was changed from "Agrarberichterstattung" to "Agrarstrukturerhebung". In years with an agricultural census, a major census which is performed at a frequency of 8 to 12 years, the Farm Structure Survey is integrated into that census. Agricultural censuses and Farm Structure Surveys are known collectively as "Structural Surveys of Agricultural and Forestry Holdings". Accordingly, all data surveyed as part of the agricultural census are also published as part of the agricultural census.

The Farm Structure Survey provides current holding-related data on patterns of production and capacity and on the economic and social relationships between owners and/or managers. In addition, the characteristics are surveyed either representatively, from a selected group of respondents, or comprehensively, from all holdings. The results refer, among other things, to land use, livestock, the use of workers, the socio-economic relationships and ownership/leasing. Changes over time reflect the structural and social processes which agriculture undergoes in response to changing production and policy-related conditions.

Since the 1999 agricultural census, holdings with 2 hectares or more of utilised agricultural area (UAA) have been surveyed. Holdings with less than 2 hectares of UAA are required to provide information if they have at least the minimum animal stock or acreage under special crops. Prior to 1999, lower survey limits had applied. The increase was justifiable because structural change in German agriculture had meant that holdings had become larger, with the result that at least 99% of standard gross margin (SGM) qualified for participation in the surveys.

The 2007 Farm Structure Survey was carried out at the beginning of May. Approximately 374 500 holdings took part. For the representative part of the survey, 96 600 holdings were questioned. The survey and reporting programme of the Farm Structure Survey also satisfies the requirements placed on the biennial European Farm Structure Survey. The main land use survey was conducted simultaneously with the Farm Structure Survey. The characteristics of the main land use survey included main types of productive animals and crops, features of ecological farming and the legal form of the survey units.

## **1.2 Legal bases**

- Council Regulation (EEC) No 571/88 29 February 1988 on the organization of Community surveys on the structure of agricultural holdings between 1988 and 1997 (OJ EC No L 56 of March 2, 1988, p. 1), last amended by Commission Regulation (EC) No 204/2006 of 6 February 2006 (OJ EC No L 34, p. 3),
- Federal Statistics Act (BStatG) of 22 January 1987 (BGBL I p. 462, 565) in the version applying in each case,

- Agricultural Statistics Act (AgrStatG) in the version published on 19 July 2006 (BGBL I, p. 1662).

The national legal basis includes rules on:

- scope and collection area,
- survey frequency and reference period,
- competence for implementation of the survey,
- administrative and financial aspects,
- the obligations on respondents with respect to the survey,
- the selection, duties and protection of interviewers,
- the right to access administrative data.

## **2. Contents**

### **2.1 Survey characteristics**

The 2007 Farm Structure Survey was carried out in full in all agricultural holdings. In accordance with the Agricultural Statistics Act, the selected characteristics were surveyed on a representative basis only. The following characteristics were surveyed on a comprehensive basis:

- characteristics of the main land use survey (including intermediate crops),
- livestock,
- workers (using the group concept),
- socio-economic relationships (main and supplementary income),
- profit accounting and sales tax.

The following characteristics were surveyed on a representative basis:

- ownership/leases,
- sources of income not arising from the holding,
- creation and use of commercial fertilizers of animal origin,
- workers (in accordance with the individual concept),
- income from gainful employment other than agriculture but directly related to the holding.

A schematic overview of the arrangement of the 2007 Farm Structure Survey can be found in Annex 1.

Land use was determined on the basis of a set of questions broken down by main use and crop types, cultivation of arable land and land set-aside. The set of questions covered all surface categories important for the assessment of land management during the survey period. Crop types which are non-significant in German agriculture in terms of surface area and production value, but which are part of the EU list of variables, were either excluded from the national list of variables or were placed under collective headings. The collective heading "All other legumes", for example, contained sweet peas

and beans, vetches and lupins for the production of grain. Flax and linseed flax were included under a single heading. Other crop types, such as rice, cotton, hemp, fruit and berry types of subtropical climate zones and mushrooms, were not included in the national list of variables, for the above-mentioned reasons. On the other hand, specific crop types were surveyed in greater detail, such as cereals and root crops, depending on their national importance and/or the requirements of the relevant EU Regulations. Also, irrigated surfaces, being of little significance, were not an integral part of the 2007 questionnaire. Irrigation, specified under heading N ("Environmental aspects") in the EU list of variables, was likewise not covered by the Farm Structure Survey in Germany. "Type of management" has been surveyed since 1999. This helps to make a distinction between holdings in general (which generally use "conventional" methods) and eco-holdings. With the help of this auxiliary question, characteristics can be evaluated separately for both groups. Beginning with the 2003 Farm Structure Survey, information on the amount of utilised agricultural area (UAA) already converted or undergoing conversion to ecological farming have been surveyed separately. Similarly, animal species used in ecological farming were surveyed separately. Comparability with the results of the 1999 agricultural census and the 2001 Farm Structure Survey was, however, retained.

The legal form of the holding was also surveyed. The subject area "legal form" is divided into holdings owned by individuals, corporations/groups of persons or legal persons under private and/or public law.

Livestock data were surveyed for selected categories of animal. Respondents were asked to indicate the number of domestic animals which were in the physical possession of and/or directly kept by the holding on 3 May 2007. Livestock in combination with land use was used to classify holdings and calculate SGM. As with land use, the EU list of variables includes cattle types whose economic significance in Germany is small, and this variable was therefore not surveyed. It includes goats, mother rabbits and bees. By the same token, however, the categories cattle, pigs and poultry were subdivided further and were listed in more detail.

In the set of questions concerning workers, data on the extent of employment, which were important for assessing employer-employee relationships, were surveyed at the following levels: holding (for all workers), household of the owner (for owner managers and their spouses) and gainful employment not related to the holding (owner managers and their spouses). Unlike with the 2005 Farm Structure Survey, managers' vocational training was not surveyed in 2007.

Workers were surveyed for the 2007 Farm Structure Survey on a comprehensive basis. In sample holdings, the individual concept was applied, whereas the group concept was used in non-random samples. Since 2003, it has not been necessary to indicate the average weekly working time, but individuals are assigned to one of five categories of average number of hours worked per week or annual working days. Compared with previous survey years, this change had a direct impact on the calculation of the workforce and annual work units. Due to these changes, there is only limited scope for comparison with the years before 2003. Since 2003, the uniform reporting period for workers has been the 12-month period leading up to the survey (in this case, May 2006 to April 2007). Up until 2001, the reporting period for workers in sample holdings was four weeks in April.

The 2007 Farm Structure Survey yielded data on possible sources of income not related to the holding, in addition to the EU list of variables. The questions extended to the income of the owner, his spouse and relatives active on the holding, by type or origin (incomes from other gainful employment, other incomes, e.g. from old-age pensions, unearned income). The reference period was the one-year



period from May 2006 to April 2007. Respondents' estimates of which source of income (i.e. net annual income from the holding or other sources) was the higher was used as the basis for classifying the holdings as the source of "main" or "supplementary" income.

The subject group "social-economic relationships within holdings" was used to survey working time in the holding and the owner/manager's household and outside the holding. The working time spent on holdings, in combination with the owner/manager's overall estimate as to whether the net annual income from the holding or income from non-operational sources is higher, also provides information about which is the "main" or "supplementary" income.

The set of questions concerning tenure of the UAA provide information on the extent to which the holding is managed by the owner, leased, or managed free of charge, as of the survey date. In order to show trends in the national leasing market and the economic significance of lease payments in Germany (over 60% of total UAA leased), the amount of lease payments to the lessor was surveyed, in addition to the size of the leased UAA.

The subject group "commercial fertilizers of animal origin" is significant in environmental terms. Here, the holding indicated whether, during the 12-month period from May 2006 to April 2007, commercial fertilizers of animal origin were created or used on the land which it farms. The holdings were also asked about their storage capacity.

Since the 2003 Farm Structure Survey, the group of questions entitled "Income combinations" has included all gainful employment, performed on the holding at the time of the survey, which does not involve agricultural work but which is directly relevant to the holding and has economic consequences for it.

Unlike in the 2005 survey, the group of characteristics "tractors, single-axle haulers, machines and equipment" was not included in the 2007 Farm Structure Survey.

Finally, questions about rural development subsidies were no longer asked in 2007.

## **2.2 Questionnaires**

Questionnaires were mainly completed in paper form (see Annex 2, questionnaire "N", for non-random samples and "S" for sample holdings and instructions). The survey documents included explanatory notes, a letter and a sheet accompanying the questionnaire with legal references and information for the respondent, which was to be given to each respondent in accordance with national law. Supplementary/auxiliary sheets were made available for certain characteristics, on request. The Federal Statistics Office prepares the standardised questionnaires with the Statistical Offices of the *Länder* and sends them to the latter, which adapt the layout to their specific needs. Furthermore, Bavaria, Saxony and Thuringia made the questionnaire, or parts of it, available to farmers on-line.

In accordance with the work schedule for the 2007 Farm Structure Survey, the questionnaires were dispatched by the Statistical Offices of the *Länder* by the end of April 2007. The holdings were required to return the questionnaires to the Statistical Offices by June 2007; however, this deadline was extended as reminder procedures became necessary.

## **3. Survey methods**

### **3.1 Organisation of the survey**

In Germany, the Farm Structure Survey is a decentralized statistical operation. Coordination and technical and methodological preparation take place at the Federal Statistics Office in co-ordination with the Statistical Offices of the *Länder*. The latter were responsible for obtaining and processing the data (NUTS I level). The main competencies and tasks are described briefly below.

The survey documents, including the survey manual for the interviewers, were prepared by the Federal Statistics Office in cooperation with the Statistical Offices of the *Länder*. The preparatory work included, among other things, combining the national and EU lists of variables. Joint discussions and working groups bringing together the Federal Statistics Office and the Statistical Offices of the *Länder* helped in preparing the survey and processing, presenting and publishing the results.

The identification of holdings to be surveyed (and the appropriate addressing) was the responsibility of the Statistical Offices of the *Länder*, which used the *Farm Register*. For the random sample, the Statistical Offices of the *Länder* employed a standard program that uses a sampling plan devised by the Federal Statistics Office in cooperation with the Statistical Offices themselves.

The Statistical Offices of the *Länder* were also responsible for the organisation of data capture and the printing of the survey documents (including supplementary documents such as various communications on the survey, check lists, reminders), although the procedures differed between one *Land* and another. In the new *Länder*, the postal survey predominated, whereas in the "old" federal territory, the postal survey was supplemented by face-to-face interviews. The survey offices are separate from the normal administration and deal exclusively with statistical tasks. Similarly, in the municipalities, the survey was carried out by the municipalities, central administrative bodies and by interviewers in accordance with the regulations applying in each *Land*. Data protection was guaranteed by organisational separation. The main tasks of the survey offices were:

- to appoint the interviewers, instruct them and maintain contact with them,
- to distribute the questionnaire,
- to perform checks on completeness,
- to examine the completeness of the data in the questionnaire and to supplement them, where necessary,
- to perform further inquiries.

The survey documents of the competent Statistical Office were made available to the survey offices and the deadlines for returning the questionnaire were communicated. The survey offices themselves were responsible for implementing the survey in their area of jurisdiction. These either performed the survey themselves or used interviewers. Where interviewers were used, they were first given instructions on how to proceed.

The examination of the completed questionnaires for completeness and plausibility was the responsibility of the Statistical Offices of the *Länder*, assisted in part by the survey offices and interviewers. The same was true of the decision as to whether a respondent had to be contacted again in cases where corrections had to be made.

The data processing was done using the interactive "AGRA" application specially developed by the Federal Statistics Office and the Statistical Offices of the *Länder*<sup>1</sup>. In addition, the "Statistics Group" (*Statistikverbund*), bringing together representatives of the Federal Statistics Office and the Statistical Offices of the *Länder*, ensured joint planning and uniform compilation of the necessary programs. Joint programming was done in accordance with agreed rules. Several *Land* Statistical Offices took part in the programming. The specifications were written by the specialised departments of the Statistisches Bundesamt. Checks on the programs was the responsibility of the *Land* programming department, in cooperation with the relevant division of the Statistisches Bundesamt.

The Federal Statistics Office controls and publishes the aggregated results of the Farm Structure Survey for Germany and the *Länder*. The results for each *Land*, together with more highly disaggregated results, are published by the respective Statistical Office.

### 3.2 Work schedule

The most important activities were:

- dispatch of survey documents (end of March/mid-April 2007)
- checks on returns (May 2007 to end of December 2007)
- checks on completeness (May 2007 to January 2008)
- special and visual inspection (May 2007 to January 2008)
- computational examination (May 2007 to February 2008)
- further inquiries at holdings (May 2007 to February 2008)
- reminders (May 2007 to February 2008)
- processing of the results using the interactive AGRA tool (May 2007 to March 2008)
- compilation of/checks on tables (mid-July 2007 to September 2008)
- compilation of various publications (December 2007 to December 2008).
- storage of results in data bases (December 2008).

Consideration was given to the organisation of work, the drafting and printing of the questionnaire, sampling, addressing, preparation and dispatch of questionnaires before March 2007. The visual inspection of returned questionnaires (including reminders), data collection, plausibility checks and tabulation were done in the period from May 2007 to about February 2008.

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<sup>1</sup> Processing of production and structural statistics of holdings (**Farm Structure Survey**)

### 3.3 Preparations for survey implementation

#### 3.3.1 Population and selection basis

The survey population was determined using the *Farm Register* and the consolidated material from the 2003 general Farm Structure Survey. Holdings which no longer existed at the time of subsequent surveys were removed from the population. Holdings which had been created since 2003 were added to the population. For this purpose some *Länder* used, among other things, data from the InVeKoS<sup>2</sup> and HIT<sup>3</sup> systems. New holdings were examined before being admitted to the population. Since 2000, information on holdings' addresses kept by agricultural social security institutions was been consulted bi-ennially. Some *Länder* continued to use information on eco-holdings kept by the agricultural authorities, comparing it with the information on holdings with the "eco" label obtained as part of the 2007 Farm Structure Survey.

In accordance with the Agricultural Statistics Act, the units for the 2007 Farm Structure Survey in Germany were holdings within defined survey thresholds. Holdings within the meaning of the Act are technical/economic units which have at least the minimum UAA and/or the minimum animal stocks or acreage for special crops, which are farmed for account of the owner, come under single management and produce agricultural products. The holdings can also generate other products and services.

The 2007 Farm Structure Survey covered holdings with a utilised agricultural area (UAA) of at least two hectares or with at least:

- eight oxen or pigs, or
- twenty sheep, or
- two hundred laying or young hens, or slaughter, fattening cocks, hens and other cocks or geese, ducks or turkeys, or
- thirty acres of land under planted vine or fruit trees, even if they are not productive, or hops or tobacco, or nurseries or outdoor vegetable growing or flower and outdoor cultivation of ornamental plants or cultivation of health and spice plants or garden seed operations for profit-making purposes, or
- three acres under cultivation under glass for profit-making purposes, of vegetables, flowers or ornamental plants.

Holdings with less than two hectares of UAA were included in the Farm Structure Survey if the minimum livestock herd or minimum amount of special crops was reached for at least one of the characteristics.

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<sup>2</sup> Integrated administrative and control system

<sup>3</sup> Origin protection and information system for animals

The Agricultural Statistics Act 1998 raised the lower collection limit from 1 hectare of UAA to 2 hectares, and the minimum sizes of animal stocks and special crops qualifying for the survey were adjusted accordingly. Thus, the conditions for introducing the "integrated survey" were in place. The aim was to harmonise the divergent thresholds in the various specialised statistics (structure and production) and to adjust the lower thresholds at least to the level of the structural statistics. The organisational concept of the "integrated survey" makes it possible to survey all operational production and structural characteristics simultaneously. Particularly on the basis of the raised thresholds for UAA, many smaller holdings and units with small herds and/or utilised agricultural areas, which had previously been respondents for structural statistics, were completely released from the obligation to provide information. The lower thresholds now applying nevertheless guarantee that losses of information on animal production do not exceed reasonable limits. In addition, due to the structural change, the number of small units has decreased significantly.

The sampling basis for the 2007 Farm Structure Survey comprises all survey units which fulfil the above criteria. Since the Farm Structure Survey is carried out in accordance with the operating concept, the information provided by the respondents must cover the entire holding in cases where several parts of a holding lie at some distance from each other. If several holdings belong to one enterprise, and unless otherwise decided, the holdings deliver their reports separately for each of their German holdings. Holdings which operate in more than one *Land* have to provide the information for each *Land* separately.

In order to provide an up-to-date selection basis, the Statistical Offices of the *Länder* keep a uniform register of holdings. It is used for all agricultural and forestry statistics and serves the updating of data on respondents. It also serves to indicate which holdings are obliged to provide information and for printing their addresses. The register can be used, among other things, to identify survey units. It contains the relevant characteristics, such as the holding's name, location, legal status and UAA. Updates are done continuously. For this reason, owner/managers and/or acting managers must indicate, when stating surface areas, who is managing the respective areas. Thus, holdings which have ceased operations are deleted and new holdings are added. In the years between Farm Structure Surveys, the Statistical Offices of the *Länder* use the address material of agricultural professional associations for completion of the register. Failure on the part of owners to keep the associations up to date can give rise to errors. This has so far occurred only in a few, individual cases, however. There are therefore no grounds for assuming that holdings have been under-reported.

### **3.3.2 Survey design**

The entire Farm Structure Survey was carried out in the spring of 2007. Characteristics to be surveyed representatively were obtained from a sample of 96 600 sample holdings. All of the characteristics were surveyed simultaneously on a single survey date (3 May). For the individual survey characteristics, however, different reporting times and/or timeframes are specified. This concept is known as "integrated survey" and has been used since the agricultural census of 1999.

### **3.3.3 Pilot survey**

The survey characteristics of the 2007 Farm Structure Survey were already surveyed in earlier Farm Structure Surveys/agricultural holding censuses. A pilot survey was therefore unnecessary.

### **3.3.4 Information for respondents ; personnel training**

Employees of the survey offices attended training meetings at which officials of the *Land* Statistical Office instructed them in their duties. They also received written explanations. The survey offices then carried out the survey themselves or used interviewers.

Where interviewers were used, they were also given an introduction to their tasks. Interviewers are generally volunteers from the agricultural and administrative sectors, who have previously taken part in several surveys and who are familiar with agriculture. If requested, they help respondents to fill out the questionnaire.

Prior to commencement of the survey, farmers were asked by their professional associations to take part in the survey. Press releases, articles in the farming press and official announcements also drew their attention to the survey.

## **3.4 Procedures for random sampling, data collection and data input**

### **3.4.1 Sampling**

The sample for the Farm Structure Survey is based on a single-step sampling procedure. The Agricultural Statistics Act provides for a maximum sample of 100 000 holdings at Federal level. The consolidated material from the 2003 Farm Structure Survey served as the sampling basis. In line with the sampling plan, the survey sample for the 2007 Farm Structure Survey comprised 96 660 holdings.

With a single-step (stratified) sampling procedure, each holding is attributed to the first stratum, in ascending order, whose criteria apply to it, irrespective of whether it also fulfils the criteria of other strata. The sample was divided up among the *Länder* in such a way that the results for the *Länder* are sufficiently comparable in terms of reliability. The sampling distances for the different strata for each *Land* are determined in accordance with the principle of comparable precision, with an exponent of 0.25. This allocation procedure is based on the relative standard errors of an indicative characteristic, as a function of the values of this characteristic in the result headings. The division by *Länder* is determined by the relative size of their holding populations.

Stratification has been carried out since 1975 for each *Land*, whereby the stratum borders are specified on the basis of the results for the comprehensive survey for the previous period (selection basis). The sampling distances of the strata defined on the basis of technical and methodological aspects were determined separately for each *Land* on the basis of the technical arrangement and regional distribution as well as the averages and variances computed from data on individual holdings in the multi-purpose (total) census. In material regard, there is no obvious classification scheme for the results tables which could serve directly as a stratification pattern. Therefore, the stratification characteristics and stratum borders were determined exclusively on the basis of methodological aspects. Experience teaches that stratification by UAA lends itself to more stable and effective grouping of the holdings prior to sampling. Additional strata were created in the interest of greater precision. They comprise the relatively small number of holdings with a high degree of specialisation. This approach ensures that these holdings have a sufficient probability of being sampled, and that the holdings form

largely homogeneous groups (in terms of survey characteristics) within their respective UAA size classes.

In preparation of the 2007 Farm Structure Survey, the consolidated material from the 2003 Farm Structure Survey was arranged according to 26 strata. Table 1 (p. 16) shows the strata which formed the basis for the sample of the 2007 Farm Structure Survey. After the calculation of the stratum stocking numbers and the scatter parameters (the standard income of the holding was used for this), as the division method first the method of attenuated proportionality to the number of holdings per stratum and also the Neyman-Tschuprow optimum method with the standard income of the holding as the division characteristic was used. The combination with the approach based on the number of holdings was introduced in order to improve above all the accuracy of the results for the evidence of the number of holdings, particularly in tables broken down by area used for agriculture. The final selection sets were then determined by calculating a weighted average from the results of both methods (here the solution obtained from the optimum method was weighted three times as much as that of the root-proportional approach). Very high selection sets (90% or more, also sometimes more than 80% in the new Länder) were raised to 100%.

The creation of 26 strata gave rise to the following results:

- the comprehensive survey of large-scale holdings was reduced to the minimum permitted by survey methodology,
- the stratum borders for large cattle herds were adapted to the specific conditions of the *Länder*,
- the stratum borders for UAA were generally uniform at Federal level,
- the precision of the cattle characteristics was improved.

With the establishment of the strata 8 to 12 which "correspond" to strata 1 and 2 for holdings with large animal stocks, the results for animal stocks were further improved. For strata 1 and 2, the selection set amounted to 100%. That concerns marginal values with a lower limit, which are included in the total. Otherwise, no valid data can be collected, because the holdings in these strata are heterogeneous. The two strata (established as a precaution in 1975) for new holdings (divided into new holdings which were included in the survey and those which were known to exist prior to the survey but which were not attributable to any of the existing strata) were combined to form a "new entries stratum" (stratum 28 in the table below) as from the 2003 Farm Structure Survey.

Table 1: Strata for the sampling plan of the 2007 Farm Structure Survey

<b>Stratum No.</b>	<b>Delimitation of holding strata</b>
Stratum 1	Total stratum poultry
Stratum 2	Total stratum large animal stocks (excluding poultry)
Stratum 3	Total stratum large surface areas
Stratum 4	Special crops (e.g. hops and tobacco)
Strata 5 to 7	Holdings with land under vines (by area of land under vines)
Stratum 8	Milk cows
Stratum 9	Cattle
Stratum 10	Breeding sows
Stratum 11	Pigs
Stratum 12	Sheep
Strata 13 to 17	Holdings with horticulture (by UAA)
Strata 18 to 26	Other holdings (by UAA)
Stratum 27 <sup>1)</sup>	Forest holdings
Stratum 28	Additions (new holdings)

<sup>1)</sup> The sampling set of stratum 27 is 0, since forestry holdings are no longer required to provide information.

Because of changes to the population which had occurred between 2003 and 2007, a new sample was drawn. The sampling programme does not allow for rotation of the sample holdings.

The selection of sample holdings was carried out in the Statistical Offices of the *Länder* with an automated standard selection program. The procedure of "restricted selection" was used. The aim was to weaken breaks in the series which can result from a new selection of holdings. Five independent samples were drawn in each *Land*, and a "shadow processing" was carried out on each of the samples on the basis of 36 major survey characteristics (selected animals, type of main use and crop types). The results projected on the basis of the data from the most recent comprehensive survey were then compared with the appropriate values of the selection basis. The sample with the smallest deviations between the sum of the absolute values of the relative deviations and the estimated values of the respective sample per *Land* and the appropriate values of the control characteristics was selected. Additionally, prior to selection for each stratum, holdings were grouped by regional characteristics (administrative districts, regions, municipalities).



### 3.4.2 Data collection

Data capture was to some extent organised along different lines in the Statistical Offices of the *Länder*. For example, in addition to postal surveys, the personal survey involving survey offices and/or interviewers retains its importance in the "old" *Länder*. In the new *Länder*, the postal survey was the main focus. There was also the possibility of taking part in an on-line survey, although little use has been made of this option hitherto. In some *Länder*, data capture by telephone constituted between 10 and 25%. It was used, however, mainly where discrepancies between results were detected, for which consultation with the respondent was necessary. Also, missing data were obtained by telephone. Data were transmitted by fax in comparatively few cases, but showed, although this method has been increasing in popularity in recent years.

Accurate information on the time required for completion of the questionnaires is not available, given the differing types of holdings in Germany. According to estimates of the Statistical Offices of the *Länder*, completion time for the "comprehensive" part of the survey is approximately half an hour on average, while the questionnaire on characteristics which were surveyed on a representative basis required over one hour on average. The data vary substantially between *Länder*, however. In the case of larger agricultural holdings or with holdings with a large workforce, completion of the questionnaire can be much more time-consuming. This also depends on how well holdings keep their records. Where interviewers are employed, completion time can also be significantly shortened.

The data were entered by the Statistical Offices of the *Länder* either directly, in interactive mode, or after automated data collection (optical character recognition), in the processing and plausibility program (AGRA). The AGRA application is designed to guarantee the creation of error-free, characterised and classified consolidated material. The plausibility of the interactive application covers approx. 600 error keys. Given large volume of data input and the broad scope of the application, an Adabas/Natural solution was applied using an AGRA mainframe computer. Individual data were then combined by the Statistical Offices of the *Länder* into sum data records and were transmitted to the Federal Statistics Office on magnetic tape or via the decentralized transmission and receipt system (DVE).

### 3.4.3 Use of administrative data

The Third Statistical Adjustment Act (*Statistikbereinigungsgesetz*) of 19 December 1997 supplemented the Agricultural Statistics Act in such a way that the use of existing administrative data for purposes of agricultural statistics became permissible. Within the framework of administrative actions, the agricultural authorities can use the given data for the main land use survey and the livestock survey insofar as the data tally with characteristics of these statistics and relate to the same survey periods. The amendment to the Agricultural Statistics Act provided for the use of administrative data for the survey of livestock, with a fixed survey reference date. The Statistical Offices of the *Länder* continue to have some discretion as to the extent to which administrative data sources are used. Table 2 shows the administrative data sources used by individual *Länder*.

Table 2: Use of administrative data sources

<b>Land</b>	<b>Use of InVeKoS<sup>1)</sup></b>	<b>Other administrative data sources</b>
Schleswig-Holstein	no	
Hamburg	no	
Bremen	no	
Lower Saxony	partly	
North Rhine Westphalia	no	
Hesse	partly	
Rhineland-Palatinate	partly	
Baden-Wuerttemberg	partly	
Bavaria	yes	eco-holdings data base
Saarland	partly	
Brandenburg	partly	eco-holdings data base
Mecklenburg-Western Pomerania	yes	eco-holdings data base
Saxony	yes	
Saxony-Anhalt	no	
Thuringia	partly	

<sup>1)</sup> Integrated administrative and control system (IACS)

In order for administrative data from InVeKoS to be used (Regulation (EC) No. 1782/2003), the holdings enter their company number, which is the identifier used by the agricultural authorities, and indicate that they are an "InVeKoS" holding. With the help of these data, the Statistical Offices of the *Länder* update a conversion database (with operating number, municipality key and holding number). Using the holding numbers available in the database, the agricultural authorities make the InVeKoS data of the holdings concerned available for transmission. The Statistical Offices of the *Länder* combine these data with the data on individual holdings obtained from the Farm Structure Survey, ensuring first of all that the data are complete. Thus, comparability of the results is ensured.

Before InVeKoS was used for the first time, feasibility studies were performed on the co-ordination of official agricultural statistics and InVeKoS in Germany. The results show there to be a good level of agreement (including at the level of individual holdings).

Data obtained from the supervisory bodies for holdings with ecological farming ("eco-holdings data base") are used by the Statistical Offices of the *Länder* only for updating addresses and for checking data plausibility. An ongoing adoption of data is not made.

#### **3.4.4 Data checks**

The questionnaires underwent a targeted "entry and visual inspection" by the Statistical Offices of the *Länder* or, if the occasion arose, by the interviewers. They were examined for completeness, legibility and correctness of the data with respect to changes of address, additions and deletions of holdings and the correctness of other data required for the processing operations. The staff of the Statistical Offices of the *Länder* then had to decide if further research is required, depending on the extent of the ambiguity or error.

The entry and visual inspection was followed by the transfer of the data to appropriate data media. The basis for this is the federally uniform "data collection and test instruction" devised by the Statistisches Bundesamt. A computer-assisted plausibility check of the individual company data (signature, addition, maxima and combination checks) was then performed. Some 600 individual checks were carried out. A distinction was made between "must" errors, "can" errors" and "automation" errors:

- "must" errors, which must in all cases be corrected (e.g. missing indication of a person's age), i.e. obvious, unacceptably incorrect data or discrepancies in the relationship between different data items;
- "can" errors concerning data or relationships between data items, which are possible, but which, given the operational and economic relationships in agriculture are improbable or rare, or which originate individual surveys which were performed on different dates and therefore do not necessarily match (e.g. maximum value checks). In such cases, other data are consulted to determine whether and how the data need to be corrected;
- errors which can be corrected by automated procedures or which can be corrected in a reliable manner and without further inquiries or data adjustments being necessary, using the available data (e.g. by using missing sum values).

The discovered errors were then corrected – sometimes following further consultation with the respondent. Plausibility checks carried out as part of the Farm Structure Survey are done in such a way that both individual characteristic complexes, and land use, livestock and other characteristics can be carried out separately for the entire holding and for each part of the survey. If equal values and marks occurred in one of these characteristics, they were adjusted. Processing takes place with the help of the AGRA plausibility program, which is maintained centrally by the Statistical Offices for Hamburg and Schleswig-Holstein. After presentation of the tabulated results, a final, manual control for material and computational correctness takes place. It concerns the results within a table and comparison between tables. Subsequently, the results are arranged for publication in accordance with data protection rules.

### **3.4.5 Non-response**

Questionnaires which are returned by farmers after processing is complete are treated as non-responses. In order to improve the response rate, a written warning procedure is applied, ranging from summonses following repeated reminders to the imposition of fines. The Statistical Offices of the *Länder* have indicated that reminders and warnings had a very varied success rate of between 40 and 100%. The Statistical Offices of the *Länder*, which initiated return calls, indicated a success rate of between 80 and 100%. According to six *Länder*, fines were either moderately successful (success quota of between 40 and 50%) or close to 100%. Expenditure on reminders has increased in recent years.

The main reasons cited by respondents for refusing to provide information are the workload, with multiple authorities and institutions frequently requesting the same data (agricultural offices, Statistical Offices of the *Länder*, universities, accounting places, etc.) i.e. for InVeKoS<sup>4</sup>, capital promotion, research and bookkeeping, and an acute lack of time during the survey period (May). In addition, the increasing number of characteristics surveyed is meeting with increasing rejection, particularly survey

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<sup>4</sup> Integrated administrative and control system

characteristics such as animal stocks, land use and characteristics which have a bearing on subsidy programmes. Data protection issues continue to arise. Thus, there was an increase in the number of telephone calls which the Statistical Offices of the *Länder* had to make to their respondents .

After conclusion of the data processing at the Federal Statistics Office and at the Statistical Offices of the *Länder*, as with the previous Farm Structure Surveys, all questionnaires were completed, either by means of telephone calls and/or by taking information over from the previous survey. Fewer than 1% of holdings were still refusing to provide information by the time the reminder procedures were concluded.

### **3.5 Data processing, analysis and extrapolation**

#### **3.5.1 Methods for dealing with missing or incorrect data**

Problems with farmers' willingness to provide information mainly concerned the structural characteristics of the Farm Structure Survey, which farmers regarded as sensitive. The problem is well illustrated by the group of characteristics "ownership and leases". With just under 62% of land under lease in Germany (2007) the size of the UAA and the rent paid for it are substantial economic factors. Therefore, transparency is not always in the lessee's interests. This is equally true of characteristics regarding the workforce, although the distinction between different classes of working time is, to some extent, done on an aggregated basis. This means that the replies are often implausible and require a relative large number of further inquiries by the staff of the Statistical Offices of the *Länder*.

Generally, an attempt is made to supplement missing or incorrect data as far as possible by repeated telephone and written inquiries or by using data for other holdings or from earlier surveys if other data sources (e.g. administrative data) are not available. A further possibility is to obtain data on individual non-respondents from administrative proceedings. This applies mainly in the areas of land use and livestock, if the non-respondent claimed aid and/or agricultural development subsidies. InVeKoS was used as the data source. A corresponding high quality can be attributed to InVeKoS data, mainly because the data used for administrative proceedings are subject to random checks by the agricultural authorities and because fraudulent data provided with a view to obtaining a subsidy can result in serious sanctions, including complete loss of the subsidy.

#### **3.5.2 Extrapolation and sampling errors**

The results of the representatively surveyed characteristics of the 2007 Farm Structure Survey were investigated by free extrapolation of plausible data for the sample holdings. The results for a set of units (here: holdings) are affected by random errors, which are shown in Table 3, using the example of survey characteristics for workers at *Land* level (NUTS I).The error calculation was done in order to assess the quality of the results. In the case of the representatively surveyed characteristics of the Farm Structure Survey, simple relative standard error was used as a measure of the extent of random error.

### 3.5.3 Non-sampling errors

Extrapolation must take account of non-responses. A distinction needs to be made between "genuine" and "false" non-responses, however. "Genuine" non-responses are holdings which existed at the time of the survey and would have had to be surveyed, but for which no response is forthcoming. These include holdings resulting from reestablishment or from the splitting of holdings that already existed, or which are not surveyed owing to gaps in the selection basis. "False" non-responses are holdings which no longer existed at the time of the survey or which are no longer required to provide information.

With "genuine" non-responses ( $\bar{n}$ ), therefore, holdings which existed at the time of the survey but evaded the survey, the extrapolation factor needs to be adjusted. In addition, for "genuine" non-responses ( $\bar{n}$ ), a correction factor is applied to the extrapolation procedure. On the assumption that genuine non-responses have the same structure as the units, for which answers are available, automated correction was done in such a way that only the observed values of the actual (smaller) volume of random checks were taken into account for the purpose of calculating the extrapolation factor. As a result, the extrapolation factor  $N/n$  was multiplied by the correction factor  $n/n-\bar{n}$ .

"False" non-responses must not be allowed to affect the extrapolation factor; they are already contained in the volume of random checks  $n$ , and may not be replaced by other holdings.

A further cause of non-random sampling errors is incorrect data from the respondent. Such data can be recognised and corrected by the plausibility checks described earlier.

Table 3: Simple relative standard errors in the 2007 Farm Structure Survey  
 - workers employed by holdings -

<i>Land</i>	Family workers			Permanent (non-family) workers		casual non-family workers
	Total	of whom full time	in other gainful employment and employed on the holding	total	of whom full time	
Schleswig-Holstein	0.79	1.17	2.29	2.75	2.89	5.03
Lower Saxony	1.04	1.10	2.07	2.13	2.60	3.79
North Rhine Westphalia	1.16	1.30	1.92	2.20	2.70	3.18
Hesse	1.37	1.78	1.95	2.58	2.58	1.57
Rhineland-Palatinate	1.26	1.51	2.09	2.65	2.57	1.50
Baden-Wuerttemberg	1.07	1.44	1.50	2.30	2.99	1.99
Bavaria	0.92	1.10	1.38	2.36	2.66	2.89
Saarland	2.49	2.12	4.75	3.62	4.94	13.81
Brandenburg	1.71	2.81	3.26	0.87	0.56	1.21
Mecklenburg-Western Pomerania	1.91	3.69	4.14	0.65	0.54	0.84
Saxony	1.87	1.96	3.13	0.54	0.40	2.97
Saxony-Anhalt	1.91	2.65	4.47	0.59	0.48	1.41
Thuringia	2.88	3.30	5.33	0.65	0.45	2.01
for information:						
"Old" Federal territory 1)	0.46	0.54	0.72	0.92	1.07	1.10
New <i>Länder</i>	0.95	1.24	1.79	0.30	0.22	0.86
Germany 1)	0,44	0.52	0.69	0.54	0.52	0.97

1) Including Berlin, Bremen and Hamburg

### 3.5.4 Assessment of results

An assessment of the results of the 2007 Farm Structure Survey with values from other data sources can be done only on a limited basis, if at all, if it is not possible to use individual data to correct discrepancies caused by differences in the definition of "holding", survey dates, survey thresholds, the number of units surveyed or quality parameters. Given Germany's official system of agricultural statistics, only the Statistical Offices of the *Länder* can do this, since it is they who possess the individual data needed for the purpose. Some Statistical Offices of the *Länder* use administrative data to assess the results for their respective *Land*. Beyond that, the number of comparable and reliable data sources

in agriculture is severely limited, particularly as there are hardly any overlaps with characteristics from other specialised areas of official statistics.

The difficulties of assessing the results of the Farm Structure Survey by comparison with other data sources is illustrated by the characteristic "ecological farming". Thus, the results for the number of holdings and ecologically managed UAA from the 2007 Farm Structure Survey are compared with the supervisory bodies' reports to the Federal Institute for Agriculture and Nutrition (BLE). However, the following limitations have to be taken into account in order to correctly interpret discrepancies between the final results.

On the one hand, the Farm Structure Survey was carried out in May, while BLE-value cumulates all reports transmitted in the year to 31 December. On the other hand, the values determined within the framework of the inspection procedure are based on all certified holdings, whereas, in the case of the Farm Structure Survey, only eco-holdings were surveyed, as laid down in the Agricultural Statistics Act (see 3.3 1). In addition to agricultural holdings with crop and animal production, the supervisory bodies also survey holdings which keep bees and produce honey as a separate production area, as they are not covered by the Farm Structure Survey.

Also, for individual characteristics of the group of questions on "Income combinations", comparable, valid numbers from other data sources are hardly available, given the differences in survey units and time frames. Comparison with other data with a view to assessing the results of the Farm Structure Survey is further limited by different definitions and delimitations of characteristics at national and European level. The example of "income combinations" shows that the national agricultural and structural policy has different priorities to the surveyed characteristics (see TAPAS 2003, "Possibilities and limitations of rural-development coverage under the EC Farm Structure Survey (FSS)").

## **4. Publication and dissemination**

With a view to making the results of the 2007 Farm Structure Survey available as quickly as possible, selected results were published in a press release of 22 January 2008.

The final results published by the "Agriculture, Forestry and Fisheries Group" appear regularly in *Fachserie 3, "Land- und Forstwirtschaft, Fischerei"*, which is available in electronic form from the Statistisches Bundesamt's "Statistics Shop". The results for the Farm Structure Survey are published in this *Fachserie* in *Reihen 1, 2.1 and 2.2*. In addition, the results for 2007 are present in the following material arrangement:

- Selected figures from the 2007 Farm Structure Survey (row 1)
- Land use of holdings (row 2.1.2)
- Cattle breeding on holdings (row 2.1.3)
- Economic orientation and SGM (row 2.1.4)
- Socio-economic relationships (row 2.1.5)
- Ownership structure of holdings (row 2.1.6)
- Non-operational incomes and employer-employee relationships for selected groups (row 2.1.7)
- Workforce (row 2.1.8)

- Holdings which practise ecological farming (row 2.2.1).

The methodological bases of the 2007 Farm Structure Survey are described separately in Fachserie 3, Reihe 2, p. 5. Explanations of the metadata and quality criteria are described, insofar as they are available, in the quality reports on the Farm Structure Survey, the main land use survey and the livestock survey, which are contained in the introductory remarks of the above-mentioned publication series.

The Federal Statistics Office publishes the results of the Farm Structure Survey as sum values at Federal and *Land* level (NUTS I). Additionally, sum values are given separately for the "old" Federal territory, including Berlin, and the new *Länder*. The results are shown under headings which are standard for all Federal territory.

Deviations from the above come about as a result of data protection law or substantive causes:

- The results for Berlin, Bremen and Hamburg are usually combined, thus giving a result for the City States.
- A detailed result for the *Länder* is to some extent dispensed with and the result is limited to summaries for Germany as a whole, pre-reunification Federal territory (including Berlin) and the new *Länder*. (Starting with the 2003 Farm Structure Survey, Berlin as a whole has been considered as part of pre-unification Federal territory.)
- Any individual results are deleted from tables with general (total) results. The relevant table fields are indicated by means of a point. Confidentiality considerations prevent the automated calculation of these data. The deleted data are, however, included in the summaries.
- Generally, representative results are expressed in 1 000s, to one decimal point. Differences due to rounding are not adjusted.

Unlike the Statistisches Bundesamt, the Statistical Offices of the *Länder* publish more highly disaggregated results for their respective *Länder*. The administrative offices published *Land*-specific results for the 2007 Farm Structure Survey on the basis of a minimum publication programme which was agreed on by the *Länder*. It includes the results for size classes and regional breakdown shown in the tables. The Statistical Offices of the *Länder* have the option of exceeding the minimum publication programme.

The results of the 2007 Farm Structure Survey represented in the publication programme of the Agriculture, Forestry and Fishery Group are equally accessible to every user once the results have been published at Federal level. The results are important data for policy decisions at national level and within the framework of the Common Agricultural Policy of the European Union. In this way, the requirements of structural policies at sectoral and regional levels are also met. Other users of the statistics are professional groups (farmer's associations, trade unions), agricultural advice centres, scientific institutions and municipalities, federations and their offices, chambers of agriculture and interested consumers.

## **5. Suggestions for future surveys**

When designing future EU Farm Structure Surveys, care should be taken to avoid any significant extension of the already extensive list of variables of the business structure surveys. This is also neces-



sary given farmers' waning readiness to provide information, as already described. Timely, cost-effective execution of Structure Surveys is not possible with an ever-growing characteristic programme, since the expenditure will rise for data acquisition, both for the authorities and for the respondents. It should also be borne in mind that farmers and their associations are already complaining about excessive reporting obligations. A substantial expansion of the survey would endanger the execution of future structure surveys, particularly as the burden imposed in the name of agricultural statistics is generally seen in the context of other administrative actions (e.g. InVeKoS, Cross Compliance, HIT), without differentiation between the underlying political or administrative goals.

When structure surveys are performed in future, the purposes for which individual characteristics are surveyed and used therefore needs to be made clear. This concerns, in particular, characteristics to which increasing importance in the characteristic programme is attached (in addition to the structure and production capacities of holdings). These characteristics include ecological services, promotion of agriculture and agriculture's contribution to rural development. For these "new" characteristics, careful consideration also needs to be given to whether they can be efficiently surveyed by means of the structure survey, and whether or not other forms of data collection might not yield better-quality results. Questions cannot be asked which are too sensitive or too complex, or which do not allow the respondents to make a clear distinction between characteristics or which do not give elicit clearly defined answers.

There are therefore limits to the use of administrative data as a means of reducing both costs and the workload on the respondents. Since, in the case of Germany, we are concerned with systemic data collection for administrative purposes, rather than for statistical purposes, there are often differences between the population, units, and characteristics. Beyond that, these administrative data may not always be available, as a result of future changes to underlying agricultural policies. As a rule, the use of administrative data makes tougher demands on the capacity of the Statistical Offices of the *Länder* to process and interpret the results, and inevitably imposes a correspondingly heavier workload on them.

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## Annex 1

## Schematic overview of the 2007 Farm Structure Survey

<b>Programmes</b>	→	<b>Basic programme (3 May)</b>		<b>Supplementary programme (3 May)</b>	
		Land use survey	Livestock survey	Workers and other structural characteristics	
<b>Survey type</b>	→	comprehensive	comprehensive	comprehensive	Representative
<b>Surveyed variables</b>	→	<ul style="list-style-type: none"> <li>▪ variables affecting the operational units: <i>inter alia</i>:               <ul style="list-style-type: none"> <li>- location of holding</li> <li>- type of management (ecological farming)</li> <li>- legal basis of ownership</li> <li>- legal status of the owner (individuals, groups of persons, legal persons)</li> <li>- type of holding</li> </ul> </li> <li>▪ total area farmed by the holding, by main use and crop type</li> <li>▪ cultivation of arable land, by crop type</li> <li>▪ discontinued surfaces</li> <li>▪ intermediate crop cultivation</li> </ul>	<ul style="list-style-type: none"> <li>▪ stocks of:               <ul style="list-style-type: none"> <li>- cattle</li> <li>- pigs</li> <li>- sheep</li> <li>- horses</li> <li>- poultry</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ workers (using the group concept (in non-random sample holdings only))</li> <li>▪ profit assessment and sales taxes</li> <li>▪ socio-economic relationships within the holding</li> </ul>	<ul style="list-style-type: none"> <li>▪ ownership/leases</li> <li>▪ sources of income not related to the holding</li> <li>▪ creation and use of commercial fertilizers of animal origin</li> <li>▪ occupation of the owner and his relatives and persons employed in the holding who are not relatives (using the individual concept)</li> <li>▪ income from gainful employment other than agriculture, but which is directly connected with the holding</li> </ul>
<b>Use of administrative data</b>	→	main use, crop types and fruit types			
"Integrated Survey" of production and structural statistics					

## **Annex 2**

### **2007 Farm Structure Survey questionnaire**