

Farm structure (ef)

National Reference Metadata in ESS Standard for Quality Reports Structure
(ESQRS)

Compiling agency: Please provide the name of the organisation of the contact points for the data or metadata. Italian National Institute of Statistics

Time Dimension: 2013-A0

Data Provider: IT1

Data Flow: FSS_ESQRS_A



Eurostat metadata

Reference metadata

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1. Contact

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1.1. Contact organisation	<p><i>Please provide the name of the organisation of the contact points for the data or metadata.</i></p> <p>Italian National Institute of Statistics</p>
1.2. Contact organisation unit	<p><i>Please specify an addressable subdivision of an organisation.</i></p> <p>Agricultural Statistics Division. SAG</p>
1.5. Contact mail address	<p><i>Please specify the postal address of the contact points for the data or metadata.</i></p> <p>Viale Oceano Pacifico, 171 - 00144 Roma</p>

2. Statistical presentation

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2.1. Data description

2.1.a. Brief description of the national history of Farm Structure Surveys (FSS)

*This item is of special interest for countries with less experience in FSS surveys. In these cases it is useful to include a brief description about the related statistical activities e.g. establishment/update of the statistical register, etc. Please keep the description **brief** (expected length of maximum 250 words)*

In 1967 Italian National Statistical Institute (Istat) carried out the first Italian sample survey on agricultural holdings aiming at providing a statistical tool able to draw a coherent and consistent picture on the primary sector's structure.

The following surveys were carried out in 1975, 1977, 1982, 1985, 1987, 1990, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2003, 2005, 2007.

Four of these surveys (1982, 1990, 2000, 2010) were carried out as full surveys (census) and they provided the frame for the following sample surveys.

Starting with 1993 edition, the survey added to the structural scopes stated by Council Regulation (EEC) n.571/88 the short terms objectives stated by the following European normative:

- 837/90 (concerning statistical information to be supplied by the member states on cereals production);
- 959/93, 2197/95, 296/2003 (concerning statistical information to be supplied by member states on crop products other than cereals);
- 93/16 (on statistical surveys of milk and milk products);
- 93/23 (on the statistical surveys to be carried out on pig production);
- 93/24 (on the statistical surveys to be carried out on bovine animal production);
- 93/25 (on the statistical surveys to be carried out on sheep and goats stocks).

Furthermore, some additional topics were surveyed by a specialized section of the questionnaire as shown in the following list:

- 1997 - fruit trees production;
- 1998 - environments;
- 1999 - rural development.

Since 2003 survey, an approach closer to local administrations' purposes has been used; sample design has been determined considering accuracy on variables of local interest and some items were introduced in the questionnaire in order to take into account some local needs.

2.1.b. Brief description of the national legislation of FSS

Please *briefly* specify the following provisions from the national legislation:

- the reference of the national legal base of the FSS survey (Act, Government Decree, etc.)	The FSS is considered of national interest and for this reason it is included in the national statistical program (code: PSN-IST 02346) approved by Prime Minister's Decree of 21 March 2013 and it is included in the set of surveys for which answers are mandatory. The survey activities performed by the Regions and Autonomous Provinces of Trento and Bolzano are established in principle by the Protocol of Understanding signed by Istat, Ministry of agriculture, AGEA and Regions, on 5 September 2012.
- the scope and the coverage of the survey	The survey covers the agricultural holdings (having at least 1 hectare of UAA) on the whole national territory.
- the frequency and the reference period of the survey	Frequency: every three years. Reference period: 2013
- the responsibility for the survey	The Institution responsible for carrying out the FSS is Istat.
- the administrative and financial provisions	Grant from EU and internal (Istat) financial allocation
- the obligations of the respondents with respect to the survey	The respondents are obliged to answer the survey since it is included in the national statistical program, even if there is no fine in case they do not respond.
- the identification, protection and obligations of survey enumerators	The list of survey enumerators is available from the system of monitoring and management of the survey (SGR). The enumerators are obliged to respect the rules concerning confidentiality and security of the data collected, according to the law on the protection of personal data (Legislative Decree of 9 September 1989, n.322 as amended by Legislative Decree n. 281/99, Legislative Decree of June 30, 2003 – n. 196 and Deontology code and of good practice for the treatment of the personal data for statistical and scientific research within the National Statistical System)
- the right of access to administrative data	The right of access to administrative data is based on the Protocol of Understanding signed by Istat, Ministry of agriculture, AGEA and Regions and other protocols between Istat and other Public

	Administrations.
- confidentiality provisions	<p>The rules of confidentiality and security are provided by general normative. General normative regards all statistical surveys carried out within the National statistical system.</p> <p>In general, the information collected are protected by the statistical confidentiality and data are treated within the law on the protection of personal data (Legislative Decree of 9 September 1989, n.322 as amended by Legislative Decree n. 281/99, Legislative Decree of June 30, 2003 – n. 196 and Deontology code and of good practice for the treatment of the personal data for statistical and scientific research within the National Statistical System).</p>

2.2. Classification system

[Not requested]

2.3. Coverage - sector

[Not requested]

2.4. Statistical concepts and definitions

[Not requested]

2.5. Statistical unit

The national definition of an agricultural holding

Please mention if the national definition of the holding is as according to the EU definition or not. If not, please mention the national definition of a holding.

The agricultural holding in FSS was defined as a single unit, both technically and economically, which has a single management and which undertakes agricultural activities listed in Annex I to the European Parliament and Council Regulation (EC) No 1166/2008 within the economic territory of the European Union, either as its primary or secondary activity.

These categories of holdings have been also included in the survey:

- Agricultural holdings managed by non-profit and public entities;
- Agricultural holdings managed by industrial, good and services enterprises;
- Holdings with livestock only for reproductive goals, breeding of horses and poultry hatchery;
- Agricultural holdings without agricultural land (exclusively zoo-technical ones);
- Zoo-technical holdings which use pasture and meadows belonging to Municipalities and/or other public/private entities;
- Common lands;
- Holdings with NACE code rev. 2 number 01.61, which have the task of good status maintenance of land.

2.6. Statistical population

2.6.1. The number of holdings in the population disregarding any possible thresholds applied (the entire number of holdings in the country), according to the EU definition of a holding or, if different from the EU definition of a holding, according to the national definition.

Please indicate the number. If it is not possible to provide this information, please provide the reasons.

Not known.

2.6.2. The national survey coverage; the thresholds applied in the national survey (if any) and the geographical coverage

Please briefly describe the national target population which is the population for which national inferences are made.

Please consider possible thresholds applied in the national survey and please mention them.

Please mention the geographical coverage (including any geographical areas not covered).

The coverage includes all agricultural holdings whose Utilized Agricultural Area (UAA) is equal or more than the regional thresholds reported in the following table and with livestock holdings if the animals are kept or their products are, totally or partially, destined to marketing. However, no thresholds have been applied to the holdings with flowers and ornamental plants, vegetables, vineyards and fruit trees because of their relevant economic value.

Region	Inclusion level of UAA size (ha)
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Piemonte	≥ 0.3
Valle D'Aosta	≥ 0.4
Lombardia	≥ 0.3
Bolzano	≥ 0.2
Trento	≥ 0.2
Veneto	≥ 0.3
Friuli Venezia Giulia	≥ 0.3
Liguria	≥ 0.3
Emilia Romagna	≥ 0.3
Toscana	≥ 0.3
Umbria	≥ 0.3
Marche	≥ 0.4
Lazio	≥ 0.3
Abruzzo	≥ 0.3
Molise	≥ 0.3
Campania	≥ 0.3
Puglia	≥ 0.2
Basilicata	≥ 0.3
Calabria	≥ 0.3
Sicilia	≥ 0.2
Sardegna	≥ 0.2

The thresholds which have been applied for 2013 **DIFFER FROM THE ONES OF ART.3 ANNEX II OF THE REGULATION.**

The national survey covered also holdings below 1 ha and other thresholds from Annex II of Regulation, thus providing a 100% coverage with respect to the 2013 reference list, which was built as described in point 2.5.

2.6.3. (new) The number of holdings in the nationally covered population (see 2.6.2), according to the EU definition of a holding or, if different from the EU definition of a holding, according to the national definition.

Please indicate the number. These are holdings in the national survey coverage. If national thresholds are applied, the size of the national survey population is the number of holdings in the population by considering the thresholds applied in the national survey (see 2.6.2).

After Census, our reference holding list was made of 1 620 884 holdings; this number is computed by already considering thresholds as mentioned in item 2.6.2. above.

2.6.4. (new) The survey coverage of the records sent to Eurostat

The survey coverage of the records sent to Eurostat can be different from the national survey coverage in case very low (or

no) national thresholds are applied.

Please indicate if the coverage of the records sent to Eurostat is different the national survey coverage. If yes, please indicate the differences and how you selected the records sent to Eurostat.

According to the 3rd article of the European Parliament and Council Regulation (EC) No 1166/2008, which concerns coverage, the physical threshold of 1 hectare was applied jointly with the ALL other physical thresholds as shown in Annex II of the Regulation.

2.6.5. The number of holdings in the population covered by the records transferred to Eurostat, according to the EU definition of a holding and, if different from the EU definition of a holding, according to the national definition

Number of records and number of holdings in the 2013 estimated population, according to the data sent to Eurostat

	Records sent to Eurostat			Whole population (2013 estimates in Eurostat)			% of the 2013 estimates in the national coverage		
	UAA (ares)	n	LSU	UAA (ares)	n	LSU	UAA	n	LSU
ITC1	94 857 965	48 940	981 343	95 547 319	59 308	985 558	99.28%	82.52%	99.57%
ITC2	5 248 755	2 180	26 358	5 287 188	2 807	26 428	99.27%	77.66%	99.74%
ITC4	92 231 965	40 436	2 535 696	92 744 983	49 169	2 544 326	99.45%	82.24%	99.66%
ITD3	79 625 291	85 192	1 437 595	81 346 082	111 155	1 440 466	97.88%	76.64%	99.80%
ITD4	21 113 087	17 857	188 463	21 275 107	20 176	189 955	99.24%	88.51%	99.21%
ITC3	3 732 986	7 895	15 769	4 199 206	16 479	16 042	88.90%	47.91%	98.30%
ITD5	103 434 709	58 670	1 070 052	103 805 155	64 480	1 070 801	99.64%	90.99%	99.93%
ITE1	69 133 953	48 623	203 120	70 647 392	66 584	204 956	97.86%	73.03%	99.10%
ITE2	30 000 137	24 926	148 498	30 558 940	34 125	148 762	98.17%	73.04%	99.82%
ITE3	44 261 756	34 597	196 133	44 766 854	41 003	196 448	98.87%	84.38%	99.84%
ITE4	56 759 443	54 292	326 345	59 415 691	82 777	336 447	95.53%	65.59%	97.00%
ITEF1	42 415 942	41 687	138 380	43 951 008	63 154	141 632	96.51%	66.01%	97.70%
ITEF2	17 420 426	16 950	107 664	17 667 418	21 780	109 354	98.60%	77.82%	98.45%
ITEF3	50 900 272	74 358	462 425	54 519 310	115 895	466 498	93.36%	64.16%	99.13%
ITEF4	118 453 762	145 466	215 221	125 030 675	255 655	216 505	94.74%	56.90%	99.41%
ITEF5	48 463 079	35 325	117 909	49 544 822	46 633	120 424	97.82%	75.75%	97.91%
ITEF6	49 839 885	73 068	134 651	53 988 616	129 642	138 324	92.32%	56.36%	97.34%
ITG1	132 610 647	134 733	386 691	137 508 522	203 765	388 004	96.44%	66.12%	99.66%
ITG2	113 453 703	41 350	542 560	114 200 641	51 907	543 780	99.35%	79.66%	99.78%
ITD1	22 790 341	15 425	114 069	23 066 243	19 182	116 446	98.80%	80.41%	97.96%
ITD2	13 141 026	8 358	47 305	13 528 414	15 511	47 574	97.14%	53.88%	99.43%
ITALY	1 209 889 130	1 010 328	9 396 247	1 242 599 586	1 471 187	9 448 730	97.37%	68.67%	99.44%

Number of holdings in the sampling frame, according to the data sent to Eurostat and according to the whole data in the national coverage

NUTS2	Number of holdings in the sampling frame (data Eurostat)	Number of holdings in the sampling frame (data Italy)	Coverage %
ITC1	57 100	67 148	85
ITC2	2 513	3 554	71
ITC4	45 401	54 333	84

ITD3	93 142	119 384	78
ITD4	19 620	22 316	88
ITC3	9 951	20 208	49
ITD5	67 034	73 466	91
ITE1	55 364	72 686	76
ITE2	27 318	36 244	75
ITE3	38 726	44 866	86
ITE4	63 274	98 216	64
ITEF1	46 341	66 837	69
ITEF2	19 771	26 272	75
ITEF3	88 120	136 872	64
ITEF4	162 374	271 754	60
ITEF5	38 876	51 756	75
ITEF6	80 387	137 790	58
ITG1	150 938	219 677	69
ITG2	46 398	60 812	76
ITD1	16 315	20 247	81
ITD2	9 251	16 446	56
ITALY	1 138 214	1 620 884	70

2.6.6. (new) Records sent to Eurostat on holdings with standard output equal to zero.

These can be holdings with only fallow land and/or only kitchen gardens and/or only crops and animals for which standard output coefficients are not defined (crops and animals not valued). In the case of a few countries, a significant amount of records have been sent to Eurostat with standard output equal to zero. Please provide any information that could help Eurostat and users to better understand why standard output is equal to zero and why those holdings are included in the survey.

There are 162 holdings in the 2013 sample with SO=0. They correspond to 8767 (extrapolated) holdings. They all have at least one of the following: fallow land or permanent grassland no longer in production purposes.

2.6.7. Proofs that the requirements stipulated in art. 3.2 and (new) 3.3 of the Regulation 1166/2008 are met in the data transmitted to Eurostat

Art. 3.2: However, Member States which use a survey threshold above one hectare shall fix this threshold at a level that excludes only the smallest agricultural holdings which together contribute 2% or less to the total utilised agricultural area excluding common land and 2% or less to the total number of livestock units.

Art. 3.3: In any case, all agricultural holdings reaching one of the physical thresholds specified in Annex II shall be covered.

Concerning UAA and LSU the following minimal coverage requirements were met:

Coverage of Eurostat data, in terms of number of holdings, UAA and LSU, according to the source data (data in the sampling frame)

	N. holdings (sampling frame)	UAA(ares)	LSU
Target Population FSS (reg. UE)	1 138 214	12 588 717.87	9 576 106
	% (70.2%)	(97.9%)	(99.6%)
Out-of-scope holdings	482 670	267 329.95	37 773
	% (29.8%)	(2.1%)	(0.4%)

Total 2010	1 620 884	12 856 047.82	9 613 880	We used the threshold of 1 hectare UAA.
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More precisely the holding must meet at least one of the following conditions:

- UAA \geq 1 ha;
- open fresh vegetables \geq 0.50 ha;
- tobacco \geq 0.50 ha;
- covered fresh vegetables \geq 0.10 ha;
- covered flowers \geq 0.10 ha;
- cattles \geq 10 heads;
- pigs \geq 50 heads;
- breeding sows \geq 10 heads;
- sheeps \geq 20 heads;
- goats \geq 20 heads;
- poultry all \geq 1000 heads.

2.7. Reference area

(new) The criteria used to determine the NUTS3 region of the holding

Please indicate which criterion is used to determine the NUTS3 region of the holding. Criteria:

- the majority of the total area of the holding where the holding is located;
- the building (administrative, for livestock or other production);
- the most important parcel (in terms of production);
- the residence of the farmer (if it is not further than 5 km from the farm).

In order to geocode the agricultural holding headquarter (HH), and to release the related geographical coordinates, – latitude and longitude – with the precision of 5 minutes, Istat, has collected specific information about agriculture holding (AH) location. According to the Regulation 1166/2008/EU, the agriculture holding (AH) location is where the main part of all agricultural production takes place, leaving Member State the possibility of adopting the most suitable definition for their own situation. The actual definition adopted by Istat refers to the “location where the building (one or more) connected to the agricultural activities is, within the agricultural land perimeter. This building can have different functions: it can be the holder residence or the residence of agricultural labour force, or the stable for livestock, or where mechanical equipment used for agricultural activity is stored, as well as buildings used for products storage purpose. Whether within the agricultural land perimeter there are no buildings, the holding headquarter is where the largest agricultural area is located”. When the address of the HH lies within 5 km from that of the holder’ residence and it is in the same municipality, but the unit cannot be located through the information collected by holding headquarter section of the questionnaire, then the address registered for the holder’ residence has been considered.

2.8. Coverage - Time

Reference periods/dates of the main groups of national characteristics

Please indicate the reference periods/dates of the main groups of national characteristics. **(new)** Please provide justifications if the reference periods/dates from the Regulation 1166/2008 are not respected.

The FSS provides a point-in-time stocktaking of legal status, management system, total and utilized agricultural area of holding and livestock with the reference date of 1 December 2013.

Information on land use, labour force and other gainful activities related to the farms refer to the agricultural marketing year (1st November 2012 to 31st October 2013).

Data on the professional status of the holder, his/her family and related, on the head of farm, agricultural skills of farm manager refer to the 12 months prior to 31st October 2013.

Characteristics concerning rural development support refer to the three years (2011,2012,2013).

2.9. Base period

[Not requested]

3. Statistical processing

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Survey organisation and calendar

Please provide **brief** information on:

3.a The steps of the survey

organisation and the starting and ending time of each step.

This information could help countries in the future planning of the activities.

As guidelines, the steps can consist of the following. Please adapt to the national situation if needed.

1. definition of survey objective and requirements:

1.1. formation of workgroups for survey organisation;

1.2. consultation of users;

1.3. set-up objectives, target population, statistical units, classifications, precision requirements etc.;

1.4. survey promotion.

2. survey design:

2.1. set-up organisation of the survey (e.g. detailed timetable, specification of resources, costs estimation);

2.2. definition of the survey variables;

2.3. design of the sampling frame and sampling procedures;

2.4. design of data collection procedures (e.g. questionnaire design, selection of data collection modes etc.);

2.5. design of data processing

Calendar of major FSS 2013 operations

Key Activity	Time
Definition of the questionnaire	March 2013
Sampling (<i>sampling frame construction and sample selection</i>)	May 2013-June 2013
Delivery of the FSS materials to the network	October-November 2013
Interviewers' training	October 2013
Informative letter to the holders in the list	October 2013
Data collection	November 2013-May 2014
Questionnaire review	November 2013-May 2014
Data entry	November 2013-May 2014
Data control and correction	June 2014-May 2015
Data compilation and data analysis	June 2014-May 2015
Data transmission to Eurostat (first transmission)	May 2015
Final data dissemination	September 2015

In the **preparatory phase** a lot of meetings with the bodies involved (Regions) have been done, in order to discuss the organization and the content of the survey.

Training for FSS 2013

The aim of the FSS training was to transfer methods and organization for FSS operation to all the network: Contents (FSS organization, Questionnaire, Definitions, Regulation, etc.), Methods (techniques of statistical data gathering), Role (FSS operators function).

Training beneficiaries were:

- territorial Responsible persons and Coordinators (Regions/Provinces);
- interviewers.

The developed idea was a "fall" training. It consisted in a training for trainers organized in two steps. The first one was a training session between Istat and Territorial Responsible (Regions/Provinces); the second one was a training between Territorial Responsibles and the interviewers.

The contents of the training were focussed on:

1. QUESTIONNAIRE

procedures (e.g. CATI/CAPI/CAWI input programmes etc.);

2.6. pilot survey organisation and execution.

3. data collection:

3.1. sampling

frame

construction and sample selection;

3.2. recruitment of interviewers;

3.3. training of interviewers;

3.4. fieldwork;

3.5. evaluation and assessment of fieldwork.

4. data

processing and validation:

4.1. data entry and data coding;

4.2. data validation (at record level);

4.3. data correction and imputation.

5. data

compilation:

5.1. weight calculation and estimation;

5.2. calculation of derived variables;

5.3. calculation of quality indicators (e.g. non-response rates, relative standard errors, coverage errors, bias etc.);

5.4. aggregation and tabulation;

5.5. validation of aggregated data.

6. data analysis

7. data

dissemination

- contents and definitions;

- how to compile it.

2. INFORMATICAL SYSTEM FOR DATA ACQUISITION AND MONITORING

- how to create and monitor the network;

- how to register data on the electronic questionnaire.

Training instruments: classic classroom session supported by slide and handbooks, and simulation to show how to use the informatic tools supporting the survey, surfing the net.

Help desk for the FSS 2013 network

A dedicated mailbox has been set up in order to send specific questions on the survey.

E-mail spa@istat.it

The Survey Management System (SGR)

In order to support the survey network in conducting the various steps of the FSS survey, an information technology system has been implemented. More specifically, a dedicated application based on the use of web technologies has been set up, enabling data collection and the monitoring of the various data processing phases. The website set up ensures maximum data security during the data transmission and storage phases, in compliance with the National Statistical Institute's standard rules. The management system can be seen as a distributed workflow system in which each operator can work independently, following a clearly defined procedure. This design moreover has had to provide for the management of recycling in production processes (delete of questionnaires, changes of status, reactivation of check, etc.) to prevent any problems from becoming such that Istat can only work on them manually. This operating procedure has produced benefits in terms of timeliness, data quality and costs.

The system includes over 50 functions grouped by type and organized into 5 macro-areas:

QUESTIONNAIRES – includes all functions strictly connected to the survey (recording of the interview, data entry);

OPERATORS – enables the survey network and user profiles to be defined and the units in the FSS 2013 list to be assigned to a specified enumerator;

SUMMARY REPORTS – includes a set of survey progress monitoring reports;

SUMMARY FORMS – includes all functions for primary variables data collection and a summary of the primary variables necessary for publication of provisional data;

UTILITIES – includes a set of network support functions spanning the entire survey process.

3.b The bodies

The Regions (and in some cases the Provinces) have been involved in:

involved and the split of responsibilities among bodies with respect to the main steps of the survey process

- defining the contents of the questionnaire;
- defining the sample survey size (with respect to their territory);
- recruiting the interviewers;
- training the interviewers;
- creating the network (via SGR) for their territory;
- doing a first validation of microdata before send them to Istat;
- monitoring the ongoing of the activities with respect to their territory.

3.c Serious deviations (if any) from the established calendar and reasons. Please mention only serious deviations with significant consequences on the quality and the transmission time of data to Eurostat.

To ensure the smooth progress of FSS 2013 operations, it was necessary to postpone some deadlines related to the data collection of the questionnaires.

A plurality of causes have created difficulties, at territorial level, in keeping the schedule. The main ones have been:

- flooding in Sardinia;
- refusal by the Region Tuscany to participate to the survey;
- delays in starting the census network organisation in some Regions (Sardinia, Tuscany).

The data control and correction procedure and final dissemination deadline had to be postponed because of the delay of data collection.

Activities postponed

Key Activity	Actors	Original Deadline	New date
Data Collection and questionnaire review	Regions	November 11, 2013 - March 15, 2014	December 6, 2013 – May 31, 2014
Data Control and Correction	Istat	April 2014 - September 2014	June 2014 - May 2015
Final data dissemination	Istat	September 2014	September 2015

3.1. Source data

3.1.a Source of data

Please mention the source of data for example exhaustive coverage of units in a survey (census), sample survey, use of administrative sources, combinations, etc.

The FSS 2013 data were collected from the sampled units except for the rural development measures which were collected (for the units in the sample) from the IACS. Currently (2015) Italy is building a Farm Register based on a combination of administrative sources to get an exhaustive coverage of units.

After 2010 Census a coverage survey was driven which estimated number and UAA of holdings.

3.1.b (Sampling) frame

Section 3.1.b refers to the frame used to identify holdings to be surveyed and therefore should be completed only in case of a sample survey or a census.

*Section 3.1.b should **not** be completed when data are entirely taken from administrative sources. In this case, section 3.1.d of the report provides the relevant information.*

3.1.b.1 Source of the frame

Please specify the source of the frame, for example a statistical register (farm register, business register etc.), an administrative source etc.

The list of agricultural holdings which had been obtained in 2010 at Census.

The pre-census list enabled the unit selection according to the observation field, as stated in the European Regulation n.1166/2008. In other words, it has been the frame at which to apply the minimum physical threshold at NUTS2 level ex-ante to exclude some units from the survey.

The current frame is the one as described in 2.6.2.

3.1.b.2 Type of frame

Please specify whether it is a list frame or an area frame, whether you used a combination of multiple frames etc.

List frame

3.1.b.3 Time reference and updating process for the frame

The 2010 Census Frame will be substituted in 2016 by a Farm Register.

3.1.c Sampling design

Section 3.1.c should be completed only in case of a sample survey.

Please describe the sampling design according to the following structure. This structure aims to increase the clarity and comparability of information between countries.

3.1.c.1 the name of the sampling design and whether it is a probability design.

A probability sampling design ensures known probabilities for units selected. In practice, non-response generally makes samples depart from the probability ones. However, the point here is to report on whether or not the gross sample (net sample plus non-respondents) has been selected in a probability way.

The sample design is a probability design, a stratified random sampling design.

3.1.c.2 (new) the number of sampling stages.

If the survey sample is selected from another sample (e.g. master sample) please consider this stage. If you use sub-sampling for some of the characteristics, please distinguish the cases in your answer.

It has been applied a single stage design.

3.1.c.3 (new) the sampling unit at each stage

For example, sampling units can be holdings in a single-stage design or municipalities/villages as primary sampling units and holdings as secondary sampling units in a two-stage design etc.

Agricultural holding

3.1.c.4 the stratification variables and the sampling stage where they are applied

For example, in a single-stage design, holdings can be stratified by region and size.

Holdings were stratified by:

- coverage thresholds, 2 groups:
 1. if the holding had a UAA greater or equal to 1 ha, or it reached at least one threshold as stated in Annex II of Regulation 1166/2008;
 2. if the holding did not meet those thresholds, but only Census thresholds.
- regions (only NUTS2).

Each sub-domain so determined was then stratified, according to UAA size, Livestock equivalent units (LSU), and OTE classes (9). OTE is the Italian acronym for typology. In particular UAA and LSU were divided into 5 classes each (the last one being a take-all stratum), whose cutting thresholds were determined by means of R package "stratification". This leads to the stratification in the annex.

Strata collapsing has been applied as a second step not to allow empty strata or too small strata, by joining adjacent categories of the categorised continuous variables.

Please note that the package "stratification" has been independently applied to each NUTS2 region.

Additionally, no NUTS3 level has been utilised because sample size would have been probably increased, since applying stratification by UAA(5)xLSU(5)xOTE(9) in each of the more 100 NUTS3 level would have led to many small strata, and the overall dimension would have been increased. Furthermore, a stratification by NUTS 3 level in order to get reliable estimates would have required to impose a set of expected CVs at NUTS 3 level similarly to Annex IV. Having Italy over than 100 NUTS 3, this work would let explode the overall sample and may be too costful.

3.1.c.5 (new) the sampling method at each stage

The sampling method can be exhaustive selection, simple random sampling, systematic sampling with equal probabilities, systematic sampling with probabilities proportional to size, etc.

In each stratum, simple random sampling was applied.

3.1.c.6 the list and description of full coverage strata

Full coverage strata are strata with complete enumeration (all units are selected in the sample).

There was a take-all stratum in each NUTS2 level.

The holding should have a UAA above a specific threshold or LSU above a certain threshold.

Thresholds have been determined by means of the package "stratification" (Kozak method).

3.1.c.7 the overall sample size, how it was determined and any allocation method used

Allocation methods can be equal allocation, proportional allocation, Neyman allocation, optimal allocation considering different costs across strata etc.

Optimal allocation was determined by means of the Bethel algorithm, by imposing for each NUTS2 level CVs so to satisfy Annex IV. In addition to some extra variables particularly important at a certain NUTS2 level some extra CVs were imposed. 4% CVs for LSU, and 4% CVs for UAA and 4% CVs for all SO were imposed in all NUTS2 regions.

3.1.c.8 sampling across time

This item refers to whether a new sample is drawn in each occasion, or a part or the whole sample is retained over all/several occasions. The latter two cases should be justified.

A new sample is drawn in each occasion.

3.1.c.9 the software tool used in the sample selection

- Package "Stratification" (to determine strata boundaries and take-all strata)
- Package "Sampling Strata" (Bethel algorithm to compute optimal allocation)

3.1.c.10 other relevant information, if any

-

3.1.d Use of administrative data sources

3.1.d.1 Name, legal base, time reference and (new) updating of the source

If more than one administrative data source is used, please provide this information for each of them.

Administrative sources have been used in three steps of the FSS activities:

- Data collection (for data on rural development)
- Data control and correction (see 3.1.d.3, row on validation of survey data)
- Data imputation.

Specific sources are:

1. **the Integrated Administration and Control System - IACS**^[1] (AGEA: Agency for the Disbursement in Agriculture) – year 2013
The most significant and complete source is the IACS. The database managed by AGEA has been set up in accordance with the EC n. 885/2006 that, under the Common Agricultural Policy, acts in the coordination and execution of payments to support farmers. The IACS has been realized in order to record, verify and control data. The core of this system is made of files containing information on data that each agricultural holding is obliged to present for any aid application. In the database there are many available information; they can be divided into two main groups:

1) identification data of the farmer or the agricultural holding: Unique Code of Agricultural Holdings (CUAA code) that corresponds to the fiscal code of the holder. The CUAA code is mandatory whenever a relation with the Public Administration is undertaken. Holder's name, permanent address or place of residence, VAT number if present. Dates of inscription and updating.

2) territorial data: agricultural parcels of the holding; information on the use of each parcel (crops, livestock); hectares invested by type of product (cadastral area and agricultural area utilized for farming).

If the holder is not the owner of the parcels, it is recorded the identification code of landholders and the type of contract that links farmer to landholder.

2. **the System for the Identification and Registration of Bovine Animals and other species (AA.ZZ.)** – year 2013,

The System for the Identification and Registration of Bovine Animals and other species are registers in an archive (AA.ZZ) managed by the Ministry of Health. Recorded units concern animals and their holders with the scope to preserve public welfare. The covered animal species are bovines, pigs, sheep and goats, poultry, equines. The national database of Bovine Animals realized in accordance with the EC n. 1760/2000 for the setting up of a System for the Identification and Registration of Bovine Animals, is the only fully operative register up to date.

[1] COUNCIL REGULATION (EC) No 1782/2003 of 29 September 2003 establishing common rules for direct support schemes under the common agricultural policy and establishing certain support schemes for farmers.

3.1.d.2 Definition of the reporting unit (holding)

If more than one administrative data source is used, please provide this information for each of them.

Agricultural holding

3.1.d.3 The purpose(s) of the use of administrative sources

Purpose	Administrative source <i>Please specify the name of the administrative source(s) in the rows of this column. The row(s) where the name(s) of the source(s) is (are) specified indicate(s) the purpose(s) of the use of that (those) source(s).</i>
- to totally replace the survey, on all characteristics and on the whole survey population	
- to replace the survey on some of the characteristics and on the whole survey population. <i>Please indicate these (groups of) characteristics, the common identifiers and the method(s) of integration (record linkage algorithm).</i>	IACS AGEA data have been used to collect data concerning support for rural development. A big advantage of this source is the presence of a unique identification code (CUAA) that identifies the holding and that solves problems of links with different sources having a system of units identification based on fiscal codes.
- to replace the survey on all characteristics and on a part of the survey population	
- to replace the survey on some of the characteristics and on a part of the survey population. <i>Please indicate these (groups of) characteristics, the common identifiers and the method(s) of integration (record linkage algorithm).</i>	
- to build/update the (sampling) frame (used for census or for sample survey)	
- to pre-fill answers in the questionnaires which are then checked by farmers during the survey	
- to impute item/unit non-response	The following administrative source has been used for imputation: - System for the Identification and Registration of Bovine Animals and other species
- to validate the survey data (quality control). <i>Please indicate actions taken in case of large discrepancies</i>	The following administrative sources have been used for the evaluation of the results: - Integrated Administration and Control System - System for the Identification and Registration of Bovine Animals and other species
- to calibrate of survey estimates. <i>Please indicate the calibration variables</i>	
- other (<i>please specify in the next column</i>)	

3.1.d.4 Difficulties of using administrative source(s) and measures taken

For each administrative source used, please briefly describe any difficulties and the way those difficulties were addressed.

Examples of difficulties:

- incoherence of concepts/definitions;
- incoherence of classification systems;
- different population coverage;
- problems creating the links between the units: the units in administrative sources do not correspond directly to the definition of required statistical units;
- problems creating the links between databases caused by e.g. the lack of common identifiers, obstacles related to IT issues etc.;
- impossibilities to establish cooperation with register owners;
- (too high) costs charged for the access by the register owners;
- problems related to data quality of the source;
- resistance to change caused by a general lack of trust in the quality of the source;
- timeliness and punctuality: the final validated data in the source may not be in time to meet statistical deadlines or may relate to a period which does not coincide with the statistical reference period;

- risks concerning the stability of the source to political changes etc.

-

3.1.d.5 Quality assessment of the administrative sources

Section 3.1.d.5 should **not** be completed when administrative sources are used only for building/updating the (sampling) frame of a census or a sample survey . In that case, other sections of the report provide relevant information.

At the moment (2016) a survey on the quality of the Farm register is occurring. The results are not yet available.

		Administrative source and assessment of errors Please specify the name of the administrative source(s) in this column, along with information required for each row.
-coverage:		
	- over-coverage If the source covers more units than it should, please provide an assessment of the over-coverage rate and mention whether the out-of-scope units were excluded.	
	- under-coverage If the source covers less units than it should, please provide an assessment of the extent of under-coverage (if possible) and mention if and how the missing information is derived.	
	- misclassification Please mention whether the information allows for the requested classification of units and whether there are errors in classification variables.	
	multiple listings Please provide an assessment on units which were present more than once in the source and specify how the duplicates were eliminated.	
	- rate of unreported events If data of the System for the Identification and Registration of Bovine Animals is used, please provide an assessment of the rate of unreported events. Unreported events refer to births, deaths or loss, sales or change of owners etc. of animals, which create under – and/or over-coverage errors for the estimates of animals.	
	- missing data (analogue to item and unit non-response errors in a survey). Please provide an assessment of missing data, specify for which characteristics and how it was accounted for (e.g. by imputation).	
	- errors in register variables (analogue to measurement errors in a survey) i.e. erroneous values for certain variables	
	- processing errors. Please provide an assessment. You can mention here imputation methods used, if any.	
	- coherence (comparison to other available data) of the administrative data (ex-ante and/or ex-post)	
	- other drawbacks (if any) of the use of data from the administrative source. Please specify the drawbacks in the next column.	

Annexes:**[3.1.c.4. Stratification of the holdings](#)****3.2. Frequency of data collection**

(new) Please indicate the frequency of data collection.

The FSS, as a sample survey, is carried out every 3 years in Italy.

3.3. Data collection**3.3.a Data collection modes**

Please specify the data collection mode(s) used.

These can be for example:

- *Telephone*

The data collection is carried out through the telephone interviews, usually supported by the CATI technology.

- *Face-to-face*

An interviewer visits selected holdings to directly communicate with them and get the required data.

- *Internet*

The data collection is carried out by using questionnaires which can be completed through internet applications.

- *Self-completed paper questionnaires*

The data is gathered through self-completed paper questionnaires which can be collected on a spot or sent to the survey organisation by mail.

- *Mixed-mode*

Several modes for data collection are combined. The typical example is the survey where the telephone interviews are complemented with the face-to-face interviews for the respondents who were not reached by telephone.

Data collection has been carried out through a traditional technique based on the face-to-face interview of the holder by the enumerator using a paper questionnaire

The traditional technique has required application, precision and knowledge of the technical and organisational rules from the enumerators. Normally the interview has been completed out in more stages:

- Identification of the unit in the list through the personal data printed in the questionnaire or in the list;
- First contact with the holder to fix an appointment for the interview;
- Update of the list and of the personal data of the unit as outcome of the first contact;
- Interview of the holder;
- Check and analysis of the data provided;
- Record of the data on the electronic questionnaire (through SGR);
- Return to the holder, if necessary.

See attached *First page of the electronic questionnaire FSS 2013*.

In any case the interviewers were responsible for data recording, validation and confirmation of the questionnaires.

3.3.b Data entry modes

Please specify the data entry mode(s) used.

These can be, for example:

- *Optical character recognition (OCR);*
- *Electronic data capture during personal interview;*
- *Entering the data online by the holder etc.*

Data entry was performed by the enumerators through an Electronic questionnaire (GINO), off-line.

GINO has simplified the questionnaire compilation by:

- automatic calculating arithmetical operations;
- reporting errors in data input, displaying the appropriate message;
- displaying additional messages on mouse-over of words or phrases requiring a brief explanation.

In addition, to simplify the compilation of the questionnaires still further the system has allowed various steps in processing the questionnaire: saving it as a draft, which enables users to enter data without worrying about their accuracy, or saving a final version which entails the activation of control rules, and final sending. Obviously the holder might choose to skip these partial saves and send

the questionnaire directly.

See file attached.

3.3.c Measures taken to increase response rates

Please specify, for example:

- call-back strategies, written / telephone reminders, contacting respondents who have only partly completed the questionnaires;
- giving priority to more important, for example large holdings;
- taking care that the mailing list is based on up to date information;
- training staff in handling difficult respondents;
- legal actions taken on non-response.

To encourage the collaboration of farm holders, just before the start of the field work, letters to the agricultural holders were posted, informing them on the statistical significance of the FSS 2013 survey, its purpose, the importance of their co-operation and compliance with data protection regulations through the duty of statistical confidentiality.

In order to simplify the collection data, the interviewers had personal holders details, name, surname, address, telephone and mobile numbers. However, when this information was not available the interviewer had to proceed to the holding's address without notice. When the holder was not found, a note stating that an interviewer had passed by was left in the letter box. The interviewer left details for an appointment and also a contact number.

When personal holders information was present in the FSS 2013 list, the interview contacted holders for an appointment. If the holder or appointee failed to attend the interview, he/she fixed a second appointment. In case of refusal the agricultural holders were not legally pressed.

To answer the respondents on questions related to the FSS 2013 some dedicated telephone numbers have been indicated in the letter sent before the starting of the interviews.

3.3.d Monitoring of response and non-response

The following table should be completed only in case of a sample survey or a census.

It should **not** be completed when data are entirely taken from administrative sources. In the latter case, section 3.1.d provides relevant information.

The following table aims to collect exact information of the number of holdings in a uniform way. This information allows, among other, calculating response rates according to the definition of response rates in the Eurostat (2009) [ESS Handbook for Quality Reports](#), page 49. These definitions of the response rates are presented in the handbook for sample surveys but, as stated in the same handbook, page 57, they are also applicable to censuses.

The following table refers to the number of holdings covered by the records sent to Eurostat.

- If you send records on all surveyed holdings to Eurostat, then please include all surveyed holdings.
- If you send records on a subset of surveyed holdings to Eurostat (that, according to Regulation 1166/2008, account for 98% of the utilised agricultural area and 98% of the livestock units), then please consider only the subset of holdings transferred to Eurostat, if possible. If this is not possible, please explain and then include information concerning all holdings surveyed in the country.

This table refers to the number of holdings according to the EU definition, and, if different from the EU definition [\[4\]](#), according to the national definition. Please specify the case.

Common land holdings (special holdings created to report common land), if any, should not be included in the number of the holdings of any category below. They should be reported in section 8.1.d.4

1.	<p>Number of holdings in the population covered by the records sent to Eurostat</p> <p>Please note that the survey coverage of the records sent to Eurostat can be different from the national survey coverage in case very low (or no) national thresholds are applied.</p> <p>In case of a census 1=3+4+5</p>	<p>The data of this table refers to the coverage for which data is sent to Eurostat.</p> <p>From the 2010 Census list, which recorded 1 620 884 holdings, by applying the minimal thresholds according to Regulation 1166/2008, only 1 138 218 holdings were fulfilling the requirements, thus ensuring at frame level a coverage of 97,93% for UAA and 99,60% for LSU. After the survey the number of holdings in the population covered by the records transferred to Eurostat is 1 010 328.</p>
2.	<p>Number of holdings in the gross sample</p> <p>The number of holdings selected from the sampling frame to be included in the sample.</p> <p>This item should be completed <u>only</u> in case of a sample survey, in which case 2=3+4+5</p>	<p>42 530.</p> <p>Please note that in case of split of holdings and/or merging of holdings between the sample this sum will never be equal. So it is not 2=3+4+5</p> <p>There were at the beginning 42 151 sampled units, and we observed 379 new holdings (348 respondent, 10 were just starting their business so they were temporary inactive during the reference year, 20 had a UAA below the thresholds, 1 could not be found because the enumerator couldn't get the</p>

		address) The equality follows: 42 151=37 807-348+749+2418+282+1 243
3.	(new) Number of ineligible holdings <i>The number of surveyed holdings which result to be out-of-scope (the frame is not updated and the data collection reveals that some holdings e.g. fall below set thresholds during the reference period), which do not exist at the selected address, which have the activities ceased during the reference period etc.</i>	a. fell below set thresholds during the reference period: 769 (20 of them were new holdings from splits, 76 were of those were not even more agricultural holdings but solely for mushrooms and forestry) b. have the activities ceased during the reference period: 2 428 (10 were new holdings that were temporary inactive) c. do not exist at the selected address (rather holdings with unknown eligibility status, because the address could be wrong or missing but we cannot be sure if the unit exists and is eligible or not) 283 (1 was a new holding for which the enumerator couldn't get the address)
3.1	Number of holdings with ceased activities <i>This item is a subset of 3.</i> 3.1>=3.1.1+3.1.2	2 428 (including temporary ceased activities)
3.1.1	Number of holdings which definitively ceased i.e. the land is abandoned. <i>This item should be completed only if information is available.</i>	216
3.1.2	Number of holdings with ceased activities following the change of manager <i>This item should be completed only if information is available.</i>	Number of ceased activities following split and or merging: 168 Number of holdings with ceased activities who sold their land to pre-existing holdings: 1 208
4	(new) Number of holdings with unknown eligibility status <i>The number of surveyed holdings which could not be contacted (e.g. in a CATI survey) and for which it is not certain if they are eligible (e.g.in scope) or not.</i>	Our survey was no CATI. Assuming your assumptions 0. In case of a refusal it may be that the holding is not eligible, at least with unknown eligibility status.
5	(new) Number of eligible holdings <i>The number of surveyed holdings which are eligible</i> 5=5.1+5.2	39 050
5.1	Number of non-responding holdings <i>The number of eligible holdings which:</i> - were contacted but refused to take part in the survey; - were contacted but were unable to participate in the survey for various reasons; - participated in the survey but the entire survey form cannot be used because of poor quality etc. <i>This item refers to holdings for which no data is collected (unit non-response).</i> 5.1>=5.1.1+5.1.2	1 243
5.1.1	Number of non-responding holdings – re-weighted	1 243 (we also reweight wrong addresses as non respondents)
5.1.2	Number of non-responding holdings – imputed	0
5.2	Number of responding holdings <i>This item includes holdings which provided completed questionnaires, either entirely or partially.</i>	37 807 where 348 are new activities, following split or merging

3.3.e Questionnaire(s)

Please annex the questionnaire(s) used for the data collection, using the "Add file" button. If possible, please provide the questionnaire in English, French or German.

A copy of the questionnaire in Italian is provided in Annex.

[4] See Article 2 of Regulation (EC) 1166/2008 of the European Parliament and of the Council on farm structure surveys and the survey on agricultural production methods and repealing Council Regulation (EEC) 571/88

Annexes:

[3.3.a. First page of electronic questionnaire FSS2013](#)

[3.3.e. FSS2013 Questionnaire](#)

3.4. Data validation

3.4.a Edit rules/checks

Please mention edit rules applied. For example: data format checks, completeness checks, routing (skip) checks, range/outlier checks, relational checks, ratio edits, etc.

The controls included in the questionnaire regard correctness and consistency; in the first case any error regarding a wrong entered data item was reported, while in the second case any inconsistencies between data items belonging to different questionnaire sections were reported. In order to minimize the statistical burden and online compilation being subsequently abandoned, it was decided to include a minimal set of controls by assigning data correction to other phases. The main purpose of an E&IS (Editing and Imputation System) is to identify and treat the non-sampling errors, preserving as much as possible the collected information.

The main guidelines followed in planning the E&IS have been:

1. Use of administrative sources (for example Bovine animals Register) for micro and macro data checks;
2. Use of Forward Search methods for the outliers detection;
3. Use of score functions to prioritize records to be manually reviewed in order to identify and treat potentially influential errors;
4. Adoption of techniques that minimize the number of changes, particularly for the treatment of not influential random errors;
5. Mix of different imputation methods as nearest neighbour approach or model based imputation.

The strategy adopted is the outcome of different simulation studies, carried out for identifying the most suitable methodologies to solve problems of missing, invalid or inconsistent values.

E&I during the data gathering phase

In order to improve data quality during the data collection phase a controlled data entry system was developed (the electronic questionnaire GINO). In order to prevent and correct fatal errors and missing values, especially for the items related to farms identification and localization, a set of checking rules has been implemented in the data entry system. The system analyzed at unit level (micro-editing check) the coherence between the answers referring to related topics with the aim to find missing or inconsistent values.

Two types of edit rules have been used:

1. Fatal edit rules, to underline errors and force the respondent or the interviewer to restore data correctness;
2. Query edit rules, to highlight the need to do further investigation on the information gathered.

E&I to release the final data

For the final figures the E&I process has been structured in different sequential steps.

In order to detect errors, during this stage, a list of more than 1000 consistent and not redundant edit rules has been used. These edit rules, referring to single variables or to the expected relations among them, correspond to logical and/or mathematical constraints that must be satisfied simultaneously by the values of an individual record (within-record edit rules), or by the aggregation of different records included in the same subset of analysis (between-records edit rules).

The complexity of the constraints has been managed by dividing the variables into subsets that are treated in different E&I steps.

In each E&I stage, every single step has been separately processed when the subsets of variables were unconnected (the edit rules didn't affect variables belonging to different subsets) so that the order of the processing runs was not of influence. Otherwise, when the subsets of variables were connected (there were edit rules defined on variables of different related subsets), during the performance of a single procedure, all the variables imputed in the previous runs were maintained fixed.

The following steps have been repeated:

Automatic error detection:

(a) Micro-editing: error detection at unit level, according to the whole set of checking rules.

For each responding unit, the minimum number of values to be modified, for restoring the situation of correctness has been identified. The detection of errors has been performed conditionally to the path followed in the compilation of the questionnaire (relative minimum change), according to the answers given by the units without errors (donors) closest to the wrong unit. This phase has been performed jointly for the qualitative and quantitative variables.

(b) Macro-editing: data validation, by analysing the aggregates describing the structure of agriculture system (e.g. the total number of farms collected, the Utilised Agricultural Area, area invested in the major crops, etc.).

3.4.b Tools used for data validation

Please mention tools used.

Ad hoc SAS programs.

3.4.c Level of data validation

Please mention. For example, data validation can be done at the level of the interviewer, of the supervisor, of the local collection centre, of the final collection centre.

The E&I activities can be grouped in two main stages.

The first stage refers to the checks performed at the data gathering phase.

The second stage relates to the procedures aiming to release the final data.

3.5. Data compilation

Sections 3.5.a and 3.5.b should be completed only in case of sample surveys.

3.5.a Methods for deriving the extrapolation factor (the weight)

Please give a description of the extrapolation procedures used to weight the data of the sampled holdings to the population, discussing the different steps taken, as follows:

3.5.a.1 Design weights

Please explain how design weights were obtained. In case the approach departed from the usual one that consists of taking the inverse of the inclusion probabilities, then the latter should be explained.

Design weights are defined as the inverse of the units' selection probabilities.

Usual weights.

3.5.a.2 Adjustment of weights for non-response

Please mention if you applied re-weighting for non-response. If yes, then the method used to determine the correction factors should be explained: reweighted Horvitz-Thompson estimator, ratio estimation, regression estimation, etc.

Please indicate if response homogeneity groups have been created.

Design weights were corrected for unit-non response by multiplying them with the inverse of the response rate within each strata. When needed, if the response rate was lower 2/3 or 70%, strata were collapsed and then design weights were recomputed as the inverse of inclusion probabilities, then multiplied with the new inverse of the responding rate.

Response homogeneity groups were considered as coincident with strata (or collapsed ones).

3.5.a.3 Adjustment of weights to external data sources

Please mention if you adjusted the weights to external sources and if so please describe and mention the variables used from the sources and the sources. Generally, samples are adjusted to external data sources in order to make their accuracy better. For instance, the calibration technique aims at calculating new weights which provide error-free estimates for a certain number of characteristics. If the characteristics are strongly correlated with the variables of interest, then the level of accuracy for most of the survey estimates is improved.

No.

3.5.a.4 Any other applied adjustment of weights

For example, extreme weights (which increase the variance of the estimates) can be trimmed.

-

3.5.b Formulae applied for estimation methods

Please annex the formulae applied for estimation methods, using the "Add file" button.

3.5.c Other relevant information (if any)

-

3.6. Adjustment

[Not requested]

4. Quality management

[Top](#)

4.1. Quality assurance

[Not requested]

4.2. Quality management - assessment

[Not requested]

5. Relevance

[Top](#)

5.1. Relevance - User Needs

Overview of the main groups of national characteristics

Please indicate the main groups of national characteristics which are surveyed.

Please include references to characteristics surveyed only for national purposes and mention for which purposes and where the request came from (i.e. which are the users).

For national purposes, the characteristics stated in the Annex III of the Regulation (EC) n.1166/2008 have been integrated with new items or some new characteristics have been added at the list. The request of new characteristics or items comes mainly from Regions, National Account Service of Istat, Ambient Service of Istat, ISPRA or for keeping comparisons with the past.

Annexes:

[5.1. New variables](#)

5.2. Relevance - User Satisfaction

[Not requested]

5.3. Completeness

Characteristics not collected (non-significant, non-existent or (new) possibly not collected for other reasons)

For non-significant or non-existent characteristics, you may repeat the information sent to Eurostat according to art. 7 par. 3 of Regulation 1166/2008. You can also attach the relevant file to this section using the "Add file" button below.

The overall answer to this item should provide information on:

- the list of characteristics non-significant and the list of characteristics non-existent from the EU list of characteristics [\[1\]](#);*
- the reasons i.e. the prevalence or physical thresholds;*
- the source(s) of information used (for the prevalence or physical thresholds);*
- (new) how are non-significant or non-existent characteristics marked in the dataset transmitted to Eurostat.*

(new) In addition, please specify whether non-significant characteristics are reported under the headings of other characteristics (as in the case of some countries). If yes, please specify which those other characteristics are and please indicate if the Standard Output of those other characteristics is recalculated considering the inclusion of the non-significant characteristics.

The following characteristics have not been included in the FSS because they are non-existent (NE) in Italy:

- energy crops of which on set-aside area;
- genetically modified crops;
- raisins.

In fact,

- The Regulation (EC) 1782/2003 under which energy crops of which on set-aside should be provided, has been abolished.
- the national legislation (D. Lgs. n. 224/03 and D. Lgs. n. 70/05) allows the GMO cultivation in the national territory only for research purposes and the Regulation (CE) n. 73/2009 repealing the Regulation (CE) n.1782/2003 stated that energy crops on set-aside are not more existing in Italy.

Non-significant characteristics have been collected under their own headings.

See attached file *Non-existent and not significant characteristics in FSS 2013*.

[\[1\]](#) See Annex III of Regulation (EC) 1166/2008 of the European Parliament and of the Council on farm structure surveys and the survey on agricultural production methods and repealing Council Regulation (EEC) 571/88.

Annexes:[5.3. Non-existent and not significant characteristics in FSS 2013](#)**5.3.1. Data completeness - rate***[Not requested]***6. Accuracy and reliability**[Top](#)**6.1. Accuracy - overall****Main sources of error***Please provide a **brief** general assessment on the main sources of error (e.g. sampling errors, measurement errors etc.)*

Since the FSS 2013 is a sample survey, data are affected by the sampling error, especially for minor variables for which the precision were not established in defining the sample size (since not included in Annex IV of Reg. 1166/2008).

Concerning non-sampling errors (arised during the planning, conducting, data processing and final estimation stages), Istat carried out a sample survey using a CATI technique aimed to evaluate the quality of the data collected. The sample survey is based on replicated measurement on the same units interviewed by 2013 FSS. See item 6.3. for further discussion.

6.2. Sampling error*Section 6.2 should be completed only in case of sample surveys.***6.2.a. Applicability of precision requirements (precision criteria)**

The precision requirements stipulated in Annex IV "Precision Requirements" of the Regulation 1166/2008 are applicable only in some cases, depending on the actual value of characteristics. Thus, we are first interested to know the actual value of characteristics, in order to determine the applicability of precision requirements.

Please provide the actual values of the characteristics in a separate Excel file (template provided by Eurostat) and annex the completed file using the "Add file" button below. Here, we are interested in the point estimates (the weighted values), NOT in the relative standard errors (RSEs).

6.2.b. Method used for estimation of relative standard errors (RSEs)

Please describe the method used for estimation of RSEs. You can annex a document with the description of method and formulae applied, using the "Add file" button.

The estimates and the corresponding estimated standard errors are derived using the theory of stratified random sampling. Domain totals and the associated estimated standard errors are derived using standard formula for domain estimation as reported in Sarndal *et al* (1992), Section 10.3.

More specifically as weights were corrected only for non-answer, and ceased activities as well as out of target holdings were considered as respondents, they were considered as observed 0s for the computation of RSE. This leads to higher values of RSE in comparison to the ones computed on the unique set of respondents and active holdings.

Annexes:[6.2.a. Applicability of precision requirements](#)**6.2.1. Sampling error - indicators****6.2.1.a Relative standard errors (RSEs)**

(new - the information request is not new, but only the template) Please provide the RSEs in a separate Excel file (template provided by Eurostat) and annex the completed file using the "Add file" button below. The Excel file comprises tables related to the precision requirements stipulated in Annex IV "Precision Requirements" of the Regulation 1166/2008.

6.2.1.b. (new) Reasons for possible cases where precision requirements are applicable and estimated RSEs are above the thresholds

The cases where precision requirements are applicable are identified with the information provided in section 6.2.a. For those cases, the requirement is that the estimated RSEs are below the thresholds stipulated in Annex IV "Precision Requirements" of the Regulation 1166/2008. However, in some of these cases, estimated RSEs might be above the thresholds. In the latter cases, please provide justifications.

Concerning livestock, most of the reasons arise from the fact that we stratified according to LU, so strata which were uniform or

close in terms of LU, after years didn't show the same characteristics, as a result, there turned out to be more variability, than expected.

This means it has to do with the use of a non-updated list, and this effect becomes stronger with poultry and pigs (the number is more variable by nature).

Concerning pasture excluding rough grazing, the sample was built to achieve precision on pasture all. For this reason we also computed RSE for total pasture.

The remaining cases which are exceeding 5% (olives in ITI2 or ITF3 or oilseed crops in ITF2) show most relevant differences in totals as well, thus achieving a higher variability in terms of actuals RSEs, as compared to theoretical CVs, but always keep values from 5% to 7/8% which still represent very good estimates.

Concerning some discrepancies on the identification of non-compliance: initial weights were corrected only for non-answer by direct factors, while ceased activities as well as out of target holdings were considered as respondents, this implies that they were considered as observed 0s for the computation of RSEs. This leads to higher values of RSE in comparison to the ones computed on the set of respondents and active holdings. For this reason, for instance, cereals in ITI2 in our calculation is 5.26% while in EU procedure is 4.96%.

Annexes:

[6.2.1.a. Relative standard errors](#)

[6.2.1.b. Expected theoretical CVs at sample level](#)

6.3. Non-sampling error

Section 6.3 should be completed only in case of a sample survey or a census.

*Section 6.3 should **not** be completed when data are entirely taken from administrative sources. In this case, section 3.1.d.5 of the report provides the relevant information.*

Assessment of possible bias

*If comparison with another source or consistency study is made, please give a **brief** description of the source used and the differences observed which can be proof of bias.*

(new) Please also consider here bias risks associated with non-response by assessing the distribution of non-response across holdings' categories.

In a sample survey, such FSS 2013, two main kinds of errors could be encountered: sampling errors, and measurement (or response) error. The non-sampling error is a function of many factors: organisational aspects of the survey, the behaviour of a plurality of individuals or institutions.

A post-FSS surveys, in particular a re-interview survey on a sub-sample of units have been done, in order to certify the statistical quality of the information collected by the FSS 2013 (see item 6.3.2.c). Main results are summarised in the file annexed to this item.

Annexes:

[6.3. Estimated bias](#)

6.3.1. Coverage error

6.3.1.a Under-coverage errors

Under-coverage units are target population units that are not accessible via the frame. This mainly includes new units not included in the frame, either through real birth or demergers, and wrongly classified units. This generally leads to bias in the estimates. If possible, please provide an assessment on the extent of under-coverage.

No assessment of under-coverage because no areal sampling has been carried out, in order to assess units which were not belonging to the Frame (2010 Census list). A rough assessment of new units could have been performed by means of new units arising from splitting and merging. In 2013, it turned out there were 200 holdings that led to new activities thus giving rise to 368 new holdings.

6.3.1.b Over-coverage

Over-coverage units are units that do not belong to the target population. Please mention whether the data was corrected for over-coverage and if yes, please describe.

Data was corrected for non-coverage, units not belonging to the target population were disregarded.

6.3.1.c Misclassification errors

Misclassification refers to wrongly classified units (for example by geographical area or size) which belong to the target population. Please provide an assessment on the extent of misclassification errors and how they were addressed.

A few units of the list were wrongly classified by geographical area at NUTS 2 level and were moved to the right region before the data collection.

6.3.1.d Contact errors

They refer to units with incomplete or incorrect contact data. Please describe how possible errors were corrected.

In cases of units with incomplete or incorrect data, the enumerators tried to collect more information from local administrative sources before the interview. Some cases were solved during the interview.

6.3.1.e Multiple listings

Multiple listings are units which are present more than once in the frame. Please indicate the proportion of multiple listings in the frame which are present more than once in the frame and specify how the duplicates were eliminated.

No cases.

6.3.1.f Other relevant information, if any

-

6.3.1.1. Over-coverage - rate

Please provide the value of the over-coverage rate.

The over-coverage rate is the proportion of units accessible via the frame which do not belong to the target population (e.g. holdings with ceased activities still included in the frame).

-

6.3.1.2. Common units - proportion

[Not requested]

6.3.2. Measurement error

6.3.2.a Causes of measurement errors in the FSS survey

The causes are commonly categorised as:

- *Survey instrument: the form, questionnaire or measuring device used for data collection may lead to the recording of wrong values;*
- *Respondent: respondents may, consciously or unconsciously, give erroneous data;*
- *Interviewer: interviewers may influence the answers given by respondents.*

Please include here possible problems caused by difficult questions, unclear definitions, sensitive questions etc. which are likely to determine measurement errors.

The non-sampling errors could seriously affect the reliability of final results, particularly in complex surveys such as those on agricultural topics that require a considerable effort of memory by the respondent and knowledge of the productive and socio-economic phenomena by the interviewer. In FSS 2013 the characteristics that caused the highest measurement errors were: poultry livestock, some crops, in particular pasture and meadow (misclassification), other land and not utilised land (misclassification). In all these cases the questions were quite difficult. Another characteristic affected by measurement errors was the labour force. In this case the causes are: the "sensitive" nature of the question and the high number of data to be collected.

6.3.2.b If available, failure rates during data editing. Please mention if the data was corrected.

Not available.

6.3.2.c If available, assessments based on comparisons with external data, re-interviews, etc.

The Re-interview Survey

This survey was carried out through a re-interview of a sample of agricultural holdings already interviewed by the FSS 2013 survey, in order to measure the response error due to the respondent and/or enumerator. Among the different possible techniques, Istat adopted the re-interview of a sample of the FSS 2013 survey agricultural holdings, collecting information on a limited number of variables already collected within the FSS 2013 questionnaire, through a short questionnaire. The procedure consisted on the comparison between the two answers given by the same unit on the selected questions. In all cases of differences between the two responses, the reconciliation procedure was applied. In this procedure, the respondent (the holder) has to choose the right one, between the two different response given to the FSS and to the re-interview survey.

The survey was carried out on a sample of about 3 000 holdings selected with a one-stage stratified sampling from the FSS 2013 frame. The territorial domain was the national one. The survey was conducted in July 2014. The re-interview was carried out, through a Computer Assisted Telephone Interviewing (CATI), by an external specialized company.

Istat transmitted to the specialized company the sample of the holdings to be re-interviewed (5 300 units in total – 3 000 for the basic sample and 2 300 for the substitutions) and together they planned the management software of the survey. Istat trained the telephone interviewers and also prepared (and sent) the informative letters to the holders in order to inform them about the survey.

The variables selected from FSS 2013 questionnaire and used for the re-interview telephone questionnaire were:

- Total Arable land
- Total permanent crops
- Permanent grassland, Pastures and meadows;
- Utilized Agricultural Area (UAA),
- Total holding land;
- Livestock (bovine, buffalo, sheep, goat, pigs)
- Labour force (workers –family and non- family).

The interviewer did not know the response of the FSS 2013 until to the moment in which the provided value to the telephone survey is different to the FSS 2013 value. At this moment, the FSS 2013 value appeared on the monitor (in fact the value shown did not coincide in the established range) and the interviewer asked to the respondent to reconcile the data.

The reconciled value represents the “true value” and it allows the use of models to estimate the response error.

The controls included in the questionnaire permitted the preservation of specific constraints between the aggregate variables (for example UAA) and their components (Arable land; Permanent Crops, Kitchen gardens; Permanent grassland, Pastures and meadows).

Ultimately, 3 000 complete interviews (eligible units) have been conducted by the external company and all strata are represented.

There were non cases of item non-response.

See table as annex in 6.3 for relative % estimated bias.

6.3.3. Non response error

6.3.3.a (new) Unit non-response: reasons and treatment

Please specify the reasons for unit non-response and how the unit non-response was accounted for. Unit non-response can be accounted for by e.g. re-weighting, imputation.

We have considered different causes for non-responses:

- 1- absence of the holder (and of anyone else be able to answer to the interview);
- 2- wrong address;
- 3- refusal;
- 4- other (illness, judicial measures, etc.).

The unit non-responses have been corrected by re-weighting (according to the strata they belong to).

6.3.3.b Item non-response: reasons and treatment

Please mention any characteristic(s) having higher item non-response rate together with the reasons of the item non-response. This information is important and will be useful for the organisation of future surveys.

Please also specify how the item non-response was accounted for. Item non-response can be accounted for by e.g. re-weighting, imputation.

All item non-responses have been imputed.

6.3.3.1. Unit non-response - rate

Please provide the ratio of the number of non-responding holdings with no information or not usable information (item 5.1, table in section 3.3.d) to the total number of in-scope (eligible) units (item 5, table in section 3.3.d).

The percentage of non-responding holdings is 3.2%, as the ratio of non respondent units out of eligible units (according to Eurostat definition).

6.3.3.2. Item non-response - rate

Please provide the ratio of the in-scope (eligible) units which have not responded to a particular item (characteristic) to the in-scope (eligible) units that are required to respond to that particular item (characteristic). Please provide this rate for characteristics with high item non-response.

Concerning the item non-responses analysis, the ratio of eligible holdings doesn't exceed 5% for all variables.

6.3.4. Processing error

6.3.4.a Assessment of processing errors affecting individual observations

Please give a quantitative or qualitative assessment of processing errors.

Processing errors were negligible since the data entry was performed through an electronic questionnaire with internal formal checks and codifications.

6.3.4.b Completion/correction methods applied

These can consist of follow-up interviews, imputation, re-weighting, use of other data sources etc. Please describe.

The non-sampling errors have been identified and treated by an Editing and Imputation System (E&IS), preserving as much as possible the collected information.

The Editing and Imputation System identified outliers for the primary variables. After the manual review the remaining errors in the primary variables have been treated at central level by automated procedures managed by Istat. To solve these inconsistencies, the same E&I methods have been applied for the treatment of the secondary variables.

The treatment of errors was:

(a) Detected outliers and influential errors have been manually reviewed by experienced staff. In particular, the most relevant units have been re-contacted or clerically edited, by using score functions to prioritize micro data review in selective editing. For this purpose, the available auxiliary information from statistical or administrative registers has been used.

(b) Random errors, having a lower impact on data dissemination have been treated by automatic methods.

The treatment of not influential random errors has been based on the minimum change approach. Once the minimum number of values to be modified for restoring the situation of correctness has been identified at unit level, the most appropriate imputation method has been adopted for each subset of related variables (see next item).

6.3.4.c Imputation methods

Please specify what kind of imputation methods were used and for which items (characteristics).

As a whole, the imputation process has been a combination of the following methodologies:

- (a) deductive imputation, if the values to impute are uniquely determined by the values assumed by other variables;
- (b) rule based imputation (based on deterministic rules like "if-then");
- (c) nearest neighbour imputation;
- (d) model based imputation (preferred for the imputation of the continuous variables);
- (e) interactive imputation.

Particularly, the imputation of missing non linearly dependent data concerning the different types of crops has been performed through conditional Copula functions in continuous variables. This procedure is the result of several tests conducted by Istat, in cooperation with researchers from the University of Bologna (Bianchi et al., 2009; Di Lascio and Giannerini, 2012; Nelsen, 2006; Sklar, 1959). This new approach has allowed to preserve the variables distribution, as the missing values imputed have been randomly chosen from the conditional distribution of missing values, given the observed values.

The main features of these models are:

1. the first one is a general ILP model for data editing and imputation with minimum change (minimum number of variables to change) and minimum difference between the original value and the imputed value;
2. the other one is a specialised model focused on balance-edits (constraints which checks that a total equals the sum of its parts).

6.3.4.d Tools used and people/organisations authorised to make corrections

In order to treat the continuous variables, mostly for the labour force section, the software DIESIS has been used, both for the detection and the imputation of the inconsistent values.

DIESIS system (Bruni et al., 2001) is a software developed in C ++ language, and was implemented to treat the demographic variables in 2001 Population and Housing Census. In DIESIS, the detection of errors is based on the Integer Linear Programming, solved by applying Branch and Cut methods (Bruni et al., 2001). The DIESIS system allows to deal both with qualitative and quantitative variables simultaneously. The 'first donors then fields' algorithm has been used for the treatment of the labour force variables.

For the interactive imputation, a special Java web application (CORRINT) has been developed. For each section of the questionnaire, different users interfaces have been implemented to insert the new value for the single item to be corrected. The same edit rules implemented in the data collection system have been integrated in the module, thus combining data entry and data editing. During this stage, if the new value failed an edit rule, an alert appeared describing the failed rule, in order to find the best solution to restore the coherence at unit level. The process ended when all edit rules were satisfied and the questionnaire was saved.

6.3.4.1. Imputation - rate

Please provide the ratio of the number of replaced values to the total number of values for a given characteristic, for each main characteristic where this method was applied.

The imputation rate has been calculated for the main variables at national level (see file attached), taking into account the **respondent eligible** units only. This choice is in line with the calculation of the same indicator in Census 2010. In particular, for the main crops, the eligible holdings are those having UAA not null, while for animal breeding, the farms having LSU (Livestock Standard Unit) not null.

Annexes:[6.3.4.1. Imputation rates](#)**6.3.5. Model assumption error**

In case of models used for estimation, please provide an estimation of related errors.

Not available.

6.4. Seasonal adjustment

[Not requested]

6.5. Data revision - policy**Brief description of the revision policy**

For FSS preliminary data are not published. Only final estimates are disseminated.

6.6. Data revision - practice**Data revision practice**

Please describe the practice, provide the main reasons for revisions and the extent to which the revisions improved accuracy.

Please provide the average number of revisions (planned and unplanned) for main characteristics.

The quality of the preliminary results have been quite high as confirmed by the discrepancies with the final data shown in the file attached *Comparison between preliminary and final data*.

Annexes:[6.6. Comparison between preliminary and final data](#)**6.6.1. Data revision - average size**

[Not requested]

7. Timeliness and punctuality
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7.1. Timeliness

-

7.1.1. Time lag - first result

Please indicate the number of months from the last day of the reference period to the day of publication of first results.

The reference day of the FSS 2013 survey was the 31st of October 2013. The preliminary results have been released after 19 months.

7.1.2. Time lag - final result

Please indicate the number of months from the last day of the reference period to the day of publication of complete and final results.

The reference day of the FSS 2013 survey was the 31st of October 2013. The last results have been released after 24 months.

7.2. Punctuality

-

7.2.1. Punctuality - delivery and publication

Please indicate the number of days between the delivery/ release date of data and the target date on which they were scheduled for delivery/ release.

The data transmission to Eurostat has taken place after 5 months after the deadline forecasted by Regulation (EC) 1166/2008. Concerning the national release, the delay respect to the scheduled data was of 4 months. As a consequence also the pre-established schedule for national release was delayed.

8. Coherence and comparability

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8.1. Comparability - geographical

8.1.a National vs. EU definition of a holding

Please indicate possible differences between the national definition and the EU definition of the holding [\[2\]](#). Please also indicate the reasons.

There is no difference.

8.1.b National survey coverage vs. coverage of the records sent to Eurostat

Please indicate possible differences between the population covered in the national survey and the population covered by the records sent to Eurostat. Please also specify the reasons.

The population covered in the national survey may be different from the population covered by the records which are sent to Eurostat, in case very low national thresholds are applied or no national thresholds are applied.

While the national survey covers both:

1. holdings over 1 ha UAA threshold and over the thresholds of other physical characteristics than UAA in Annex II of Regulation 1166/2008;
2. holdings under the above-mentioned thresholds and above the 2010 thresholds,

the coverage of the records sent to Eurostat covers only 1.

The following table refers to 2013 estimates in both cases.

	Sent to Eurostat	National survey	%
ITC1	48 940	59 308	82.52%
ITC2	2 180	2 807	77.66%
ITC4	40 436	49 169	82.24%
ITD3	85 192	111 155	76.64%
ITD4	17 857	20 176	88.51%
ITC3	7 895	16 479	47.91%
ITD5	58 670	64 480	90.99%
ITE1	48 623	66 584	73.03%
ITE2	24 926	34 125	73.04%
ITE3	34 597	41 003	84.38%
ITE4	54 292	82 777	65.59%
ITEF1	41 687	63 154	66.01%
ITEF2	16 950	21 780	77.82%
ITEF3	74 358	115 895	64.16%
ITEF4	145 466	255 655	56.90%
ITEF5	35 325	46 633	75.75%
ITEF6	73 068	129 642	56.36%
ITG1	134 733	203 765	66.12%
ITG2	41 350	51 907	79.66%
ITD1	15 425	19 182	80.41%
ITD2	8 358	15 511	53.88%
ITALY	1 010 328	1 471 187	68.67%

8.1.c National vs. EU definitions of characteristics

Please indicate the version of the Handbook on implementing the FSS definitions used for the organisation of the current FSS survey.

Please indicate possible differences between national and EU definitions of characteristics and classifications of characteristics, the differences, the reasons and the impact on the comparability with the EU definitions. This information is relevant for users.

Please also indicate the number of hours per year for a full-time employee, used to calculate the Annual Work Unit.

Handbook on implementing the FSS and SAPM definitions – Revision 10 has been used.

Soccida (livestock lease)

The “soccida” is a livestock lease agreement entered into between the owner of livestock (lessor, “soccidante” in Italian) and a farmer (lessee, “soccidario” in Italian) who breeds the animals. The lessee has the benefit of the income and profits from the livestock during the term of the lease. At the end of the lease, the lessee has to return livestock of a similar type and age as the stock were at the outset, unless other provisions are required. The agreement contemplates a lease of one or more years.

Traditionally, the agreement enters between two agricultural holders in Italy. A new kind of “soccida” is developing more and more often in the recent years where the lessor is a manufacturing company.

In order to avoid duplications for compiling the questionnaire, the following rules have been followed: the number of animals in the lease agreement have been indicated by the lessor if the lease has been entered between two farms (this is a convention used traditionally in the previous FSS) and by the lessee if the agreement has been entered between a manufacturing company and a farm.

Agricultural Training of the Manager

A different definition than Eurostat is applied for the categories of agricultural training of manager “practical experience only” and “basic training”. Data for these two categories are therefore not comparable to data of other countries. In Italy, “practical experience only” refers to cases where the manager has completed no type of education and “basic training” refers to cases where the manager has completed a level of education (primary school, secondary education, higher education) but not directly related to agriculture.

8.1.d Common land

The legal change of the utilised agricultural area concept, and also the fact that there are various options for the coverage of the common land make this an obligatory section in this report for all countries.

8.1.d.1 Current methodology for collecting information on the common land

If common land does not exist in the country, please specify this.

If common land exists and you do not collect information on common land, please specify this and the reasons.

If you collect information on common land, please describe the methodology by referring to the below options.

Combinations of the options are possible; if you use more options, please briefly describe each one.

- common land is included in the land use data of the agricultural holdings making use of the common land.
- common land is included as special holdings i.e. the common land holdings. In addition to records with data representing agricultural holdings, records representing the common land holdings are created.
- common land is collected at regional level and included in regional records. In addition to records with data representing agricultural holdings, records representing the regional sum of the common land are created. According to discussion in a Working Group, this third option has been converted into the second option (common land holdings) allowing all common land to be formatted and included in the Eurofarm tables.

In addition, please specify:

- whether there was a set of specific questions in the FSS questionnaire on common land or a separate questionnaire. In the case of a separate questionnaire, it should be attached to this report, section 3.3.e.
- (new) how was the common land treated in terms of tenure classification;
- (new) how can common land be identified in the data.

The common land is a public or private good on which individual belonging to a determinate community have some rights of use. The rights concerns area of different kind and destination (pasture, wood, water bodies, etc.).

For the purpose of the 2013 FSS, the common land taken in consideration has been the area where the agricultural activity is made, specifically the grazing. Therefore, the common land concerning wood and non agricultural area has been excluded from the survey.

To avoid duplications in the questionnaire two cases have been distinguished:

- The area is not allotted to an agricultural holding and it is at disposal of the individuals having rights of use.
- The area is allotted to agricultural holdings, in specific and formal way.

These are the rules of the questionnaire compilation followed.

FIRST CASE - Common land not allotted

The Institution or the Municipality managing the common land is considered as an agricultural holding (enumeration unit).

These units have filled the following part of the questionnaire:

- Legal status (Institution or Municipality that runs common land)
- Management system (Other form of management)
- Land ownership (ownership)
- Land use – Section III
- Labour force - Section IX

Section V on livestock has not been compiled because the number of heads will be counted in the questionnaires of the farmers using the not allotted common land.

The agricultural holdings using not allotted common land have not to declare the area on land ownership and on land use but they have filled in the following part of the questionnaire

- Livestock – section III

SECOND CASE - Common land allotted

The area of the common land allotted is recorded by each beneficiary farm therefore is not anymore considered as common land but as land of the beneficiary farm. In the land ownership this area has been indicated as rented or in free use in accordance with the kind of formal agreement between the Institution/Municipality and the farm. The “free use” is a particular form of contract where the holder get to use the land in "loan for use "but the land remains in the property of the owner.

For this case no information was collected, which means we weren't able to identify these holdings.

The reason beyond that is that we don't ask, when there is free use, any information about whom is giving the free use.

So the records which are identified as common land are only of the first type

CHOICE OF TENURE:

As a preliminary rule to assign the tenure, we ask the holding what kind of management system they adopt:

- direct management by farmer
- management with salaried workers
- other kind of management system (which may be mainly common land, public municipalities) where the enumerator was supposed to specify which other form was

If case is c. then the tenure is classified as shared farming. In other cases a. and b. we classify as owner farming, land which may be of his own property or given as free use.

Tenant farming (case c) is about land which is rented.

Classification of tenure for common land follows the same rule.

8.1.d.2 Possible problems encountered in relation to the collection of information on common land and possible solutions for future FSS surveys

Please provide this information in case information on common land is collected.

In asking for the legal status of the holding we specifically asked whether the holding is:

- a public administration or public body (Municipalities or Commons) whose area is common land;
- a public administration or public body.

Maybe the question is not well posed, and there have been some cases in which even b) should have been classified as common land.

In some cases for instance we observed b) (which is indeed a correct answer) and common land use was specified when answering to management system question.

Unfortunately only case a) was classified as common land.

8.1.d.3 Total area of common land surveyed in the reference year

Please indicate the survey estimate in case information on common land is collected.

Considering only case (a) in 8.1.d.2 as Common land units, the UAA belonging to common land has been estimated in 285 266 hectares.

8.1.d.4 (new) Number of agricultural holdings making use of the common land or Number of (specially created) common land holdings in the reference year

Please indicate this number in case information on common land is collected.

Considering only case (a) in 8.1.d.2 we obtained 1 447 common land units; considering also the other cases we obtained a total of 2 901 common land units (and a total of 670 036 hectares of UAA).

8.1.e. Location of the holding

8.1.e.1 The origin of the coordinates

Please specify from which source you have obtained the origin of the coordinates (the geographical reference of the holding). This is required in the Handbook (document 3.1. Methodology - Handbook on implementing the FSS and SAPM definitions - REV 10). For example: cadastre information system, IACS (Integrated Administrative Control System), CAPI (Computer Assisted Personal Interview) with digital maps, address register (address of the farm or of the farmer), LAU2 (village, town, municipality etc.) region of the farm.

For FSS 2013 the same method of Census was used. The following explanation, written for Census 2010, is also valid for FSS 2013.

In the holder residence section of the questionnaire (pre-printed with information derived from Census, eventually corrected by the holder in case of errors or omissions) the information considered (among others) for AH location purpose has been: address, municipality name and Istat code, province name and Istat code.

In the holding headquarter (HH) section the information collected refers to address and to cadastral polygon (map sheet or parcel) in which the HH falls. For information on cadastre, in particular: cadastral section, cadastral map sheet and cadastral parcel, depending on kind of cadastre used in each specific territorial area, were collected. None of these information were pre-printed, as it is the case for the location of the holder' residence. The information referring to the distance between the localization of the holding headquarter and the holder residence (whether it falls within 5 km - in a straight line - or not) was collected also in this questionnaire section. It has to be underlined that the holding headquarter section had to be filled in by farmer only if the HH location was different from the holder residence.

Depending on which information was collected, two main different approaches have been identified to locate HH: the address and/or the cadastral map.

In the data process flow, the address location was considered the most accurate information so, for location purpose, it was treated at first, while geocoding through cadastral map was considered when the first option was not feasible.

Another option was to consider the information on the distance between the holding headquarter and the holder's residence. When the address of the HH lies within 5 km from that of the holder' residence and it is in the same municipality, but the unit cannot be located through the information collected with the information collected by holding headquarter, then the address registered for the holder' residence has been processed.

The procedures adopted to couple information collected through the questionnaire and the enumeration areas were different.

Addresses were coupled with enumeration areas in two different ways:

- i) through address processing with a commercial software, named Egon that, among other things, normalize the street or road description followed by geo-referencing and geo-coding;
- ii) through deterministic matching procedure with two national street archives derived from two specific and surveys (reference year 2010) realized for the preparation of the population census.

The cadastral information declared in the questionnaire are matched, instead, with geocoded cadastral maps that have been in advance processed and matched with enumeration areas through a spatial join. In all cases it is guaranteed that the holding is in the same/correct municipality. Municipalities are "comuni" in the Italian language - which correspond to LAU2.

For more details on the application of the two different approaches, please refer to Census NMR.

In case AHs were located in more than one municipality, only the information on land use and livestock rising characteristics related to the HH's municipality was considered for string assignment.

Strings used as linkage key have been defined as follows:

A) the 'long string' was based, for land use on: arable land, vineyard, permanent crops, kitchen gardens, permanent grassland, wooden permanent crops, farm forest, other land uses. These variables have been classified into new different variables whose values have been defined by the classes values. In particular, for permanent grassland and for farm forest (wooded area other than short rotation coppices) the classes are: equal to zero (value equal to 0), higher than zero and lower than 500 ares (value equal to 1), higher/equal than 500 and lower/equal 2000 ares (value equal to 2) and higher than 2000 (value equal to 3), and for kitchen gardens only presence (value equal to 1) or not (value equal to 0) has been considered. Arable land, vineyard, permanent crops, wooded area (short rotation coppices), and other land uses values are classified into 4 classes defined as: equal to zero (value equal to zero), higher than zero and lower than 200 ares (value equal to 1), higher/equal than 200 and lower/equal 900 ares (value equal to 2), higher than 900 ares (value equal to 3). For livestock, based on: bovines, buffaloes, pigs, sheep-goats, poultry and other livestock, only presence or not has been considered, for each specific species;

B) similar procedure has been adopted for the construction of the "medium string". In this case, for land use: a specific digit refers to presence or absence of each specific macro-category; for livestock: a specific digit refers to presence or absence of at least one of the raised species;

C) in the short string: two digits define the presence - or not - of i) at least one kind of land use mentioned above and ii) at least one kind of livestock species.

The procedure separates donors (geo-referenced AH) from receiving units (non-geo-referenced AH), thus the latter were linked to the previous ones taking into account the municipality code and the AH string value described above. The linkage procedure considered first the long string than the following ones.

Once the linkage was established, since the receiving unit could have more than one donor units, located in different census enumeration, it has been chosen as donor the AH that minimizes the sum of the absolute difference between the true specific value of the single variable used for the strings construction. Then the census enumeration area centroid coordinates in which the specific AH chosen is located were transferred from the donor unit to the receiving unit.

8.1.e.2 (new) The reference system

Eurostat asks to transmit the coordinates based on the reference system ETRS89 (European Terrestrial Reference system 1989) but has set up his system to allow coordinate transformation from different reference systems.

Please specify the reference system used in countries to store data on location of the agricultural holdings. This information is required by the Handbook (document 3.1. Methodology - Handbook on implementing the FSS and SAPM definitions - REV 10).

The system used (before the conversion in ETRS89) was WGS84UTM32/WGS84UTM33.

8.1.e.3 (new) The rounding of the coordinates

Eurostat recommends the transmission of the exact coordinates (the data is handled respecting statistical confidentiality provisions).

If countries still round the coordinates to a grid system, Eurostat recommends the grid based on the INSPIRE data specification on Coordinate Reference System.

Please specify if you transmit the exact coordinates or if you round them. If in the last case, please briefly describe the rounding method and the level of the rounding. For example: LAU2, regions lower than LAU2, census enumeration areas, grids, grouping by 5 holdings (ranked by latitude and longitude).

In processing information on address or on cadastral information, Istat has released the geographical coordinates of the centroide of the FSS 2013 enumeration areas in which the agricultural HH falls. In doing so, Istat will meet European Union requirements in terms of precision.

8.1.f (new) Organic farming**Possible differences between national standards and rules for certification of organic products and the ones set out in Council Regulation No.834/2007**

Please mention possible differences. This information is requested by the handbook (document 3.1. Methodology - Handbook on implementing the FSS and SAPM definitions - REV 10).

No differences.

[\[2\]](#) See Article 2 of Regulation (EC) 1166/2008 of the European Parliament and of the Council on farm structure surveys and the survey on agricultural production methods and repealing Council Regulation (EEC) 571/88

8.1.1. Asymmetry for mirror flow statistics - coefficient

[Not requested]

8.2. Comparability - over time

8.2.a Possible changes of the definition of the holding, the reasons and the impact of the changes on the comparability with previous sample survey/census data

Please indicate the relevant case from the ones below:

- There have been no changes, in which case this should be reported.
 - There have been some changes but not enough to warrant the designation of a break in series.
 - There have been sufficient changes to warrant the designation of a break in series.
- In the second and third cases, please indicate the changes, the reasons and their impact on the comparability over time. Particularly in the third case, please indicate any information relevant for users.

There have been no changes in the definition of agricultural holding.

8.2.b (new) Possible changes in the coverage of holdings for which records are sent to Eurostat, the reasons and the impact on the comparability with previous sample survey/census data processed by Eurostat

Please indicate the relevant case from the ones below:

- There have been no changes.
 - There have been some changes but not enough to warrant the designation of a break in series.
 - There have been sufficient changes to warrant the designation of a break in series.
- In the second and third cases, please indicate the changes, the reasons and their impact on the comparability over time. Particularly in the third case, please indicate which procedure Eurostat should apply to compare the data over years and any other information relevant for users.

There have been some changes but not enough to warrant the designation of a break in series, at least for UAA and LSU, for which the coverage is assured. Since thresholds have been applied to cut-off the very little holdings, the series concerning the Number of holdings, the Employment and Olive plantations should be affected by the changes.

While in 2010, the survey covered both:

- holdings over 1 ha UAA threshold and over the thresholds of other physical characteristics than UAA in Annex II of Regulation 1166/2008;
- holdings under the above-mentioned thresholds and above the 2010 thresholds,

in 2013, the survey covered only the holdings under the first case.

8.2.c Changes of definitions and/or reference time and/or measurements of characteristics, the reasons and the impact of the changes on the comparability with previous sample survey/census data

Please specify the characteristics whose definitions underwent changes, the reasons and the impact on the comparability over time.

Please indicate the relevant case from the ones below:

a. There have been some changes but not enough to warrant the designation of a break in series.

b. There have been sufficient changes to warrant the designation of a break in series.

Particularly in the second case, please indicate any information relevant for users.

Definitions of characteristics and/or reference time and/or measurement are not changed than in the previous survey (census).

8.2.d (new) Changes over time in the results as compared to previous sample survey/census, which may be attributed to sampling variability

This item is applicable when at least one of the two surveys whose results are compared is carried out as a sample survey. Please indicate any information relevant for users.

Since FSS 2013 is a sample survey, data are affected by the sampling error. This circumstance should be taken into consideration when comparing the results of FSS 2013 with the previous survey (census), especially for minor variables, for which the precisions were not established in defining the sample size since not included in Annex IV of Reg. 1166/2008.

8.2.e Common Land

8.2.e.1 Possible change in the decision or in the methodology to collect common land, compared with previous sample survey/census data and **reasons**.

Please specify possible changes and reasons.

In 2013 FSS Common land have been included in the population using the same methodology for collecting data of the Census.

See item 8.1.d.1 for definition.

8.2.e.2 Change of the total area of common land and of the number of agricultural holdings making use of the common land / number of common land holdings compared with the previous sample survey/census data and **possible reason(s)**

Please specify.

Change from 2 233 common land units with 610 165 ha UAA in 2010 to 1 447 common land units with 285 266 ha UAA in 2013. Possible reasons are explained in 8.1.d.2.

For a reasonable interval of what the estimates should be see 8.1.d.3 and 8.1.d.4.

8.2.f Major trends on the main characteristics compared with the previous sample survey/census data

Main characteristic	National estimates of the current survey	Eurostat estimates of the current survey	National and Eurostat estimates of the previous survey (Census)	Difference in %	Comments
					The subset was sent to Eurostat according to art. 3 of Reg.1166/2008- Coverage
Number of holdings	1 471 185	1 010 328	1 620 884	-9.2	
UAA (A_3_1), ha;	12 425 995	12 098 891	12 856 358	-3.3	
Arable land, ha;	6 797 492	6 728 362	7 009 621	-3.0	
Permanent grassland (B_3), ha;	3 338 571	3 316 429	3 434 073	-2.8	
Permanent crops (B_4), ha;	2 259 979	2 032 308	2 380 769	-5.1	

Wooded area (B_5_2), ha;	3 027 855	2 680 215	3 002 667	0.8	
Unutilised Agricultural area (B_5_1), ha;	517 788	484 520	648 746	-20.2	During the data editing we have found a lot of cases of misclassification with "Other land" (+23,2% in respect to Census)
Fallow land (B_1_12_1 + B_1_12_2), ha;	375 303	365 307	547 723	-31.5	After the Census a constant decrease of fallow land has been observed.
LSU in LSU;	9 426 665	9 374 265	9 913 354	-4.91	
Cattle (C_2), head;	5 727 087	5 704 927	5 952 991	-3.79	
Family Labour force - in persons(E_1_3+E_1_1 pers-wife NOT working in the farm);	2 550 931	1 799 017	2 932 651	-13	The decrease observed is in line with the decline of the numbers of holdings, mainly due to small farms with family work.
Family Labour force - E_1_3+E_1_1 in AWU;	749 717	617 153	758 370	-1%	
Non family labour force - E_1_4+E_1_5+E_1_6 in persons;	1 008 150	927 128	938 103	7.47	Even if we do not send to Eurostat E_1_5 persons nor E_1_6 we collect this information, so we are able to make comparison
Non family labour force - E_1_4+E_1_5 in AWU	261 264	199 763	195 420	33.7	This increase is due to contractors and employess on a non regular basis. It compensates the decrease of family workers

8.2.1. Length of comparable time series

[Not requested]

8.3. Coherence - cross domain

(new) Coherence with other data sources

Please indicate whether the FSS statistics are reconcilable (i.e. can be combined) with those obtained through other data sources or statistical domains.

FSS data can be combined (for a part of the variables) with the System for the Identification and Registration of Bovine Animals and, with respect to other statistical surveys, with the survey on livestock. FSS data on crops are not simply reconcilable with other statistics on crops carried out by Istat, since the methodology is different.

Comparisons with other data sources at micro/macro level

Other data sources can be for example administrative data, crop production surveys, animal surveys, labour force surveys, National Accounts.

If you run comparisons, please give a brief description of the results of these comparisons and possible adjustment made to FSS data. If not, please indicate why not.

8.3.a Comparisons at micro level

During the E&I process, before final data release, some comparisons at microdata level have been done to impute/correct data. The sources utilised at this aim have been: Census 2010 and the System for the Identification and Registration of Bovine Animals.

8.3.b Comparisons at macro level

The whole process of the Editing and Imputation System (E&IS) has been monitored by the analysis both of the data distributions and of the performances of the scheduled editing steps. By computing a set of tables, at regional level, the final results of the procedures have been compared with the available statistical and administrative sources.

For the administrative sources used for the evaluation of the results, see item 3.1.d.1.

The following statistical sources have been used for the evaluation of the results:

- 2010 Census
- Animal surveys

The comparison with other sources (administrative and statistical) shows a general coherence of the results.

Here a selection of the comparison for some relevant items:

UAA (ha)	12 160 328 (IACS 2013)	12 425 995 (FSS 2013)
Durum wheat (ha)	1 419 106 (FSS 2010)	1 238 096 (FSS 2013)
Maize (ha)	890 237 (FSS 2010)	839 832 (FSS 2013)
Olive (ha)	1 040 773 (IACS 2013)	1 073 324 (FSS 2013)
Cattle (Head)	5 480 286 (System for the Identification and Registration of Bovine Animals 2013)	5 342 035 (FSS 2013)
Pigs (head)	8 779 409 (System for the Identification and Registration of Bovine Animals 2013)	8 607 093 (FSS 2013)

8.4. Coherence - sub annual and annual statistics

[Not requested]

8.5. Coherence - National Accounts

[Not requested]

8.6. Coherence - internal

[Not requested]

9. Accessibility and clarity

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9.1. Dissemination format - News release

[Not requested]

9.2. Dissemination format - Publications

Regular and ad-hoc publications in which data are made available to the public

9.2.a The nature of publications

Please specify the nature of publications. For example, the publications can contain preliminary results or final results, can be technical reports, etc.

Please also specify if the publications contain metadata.

Data dissemination of FSS 2013 survey has been carried on by two channels:

- a digital publication on the Istat website (*Farm structure survey*) containing some tables and comments on the principal phenomenon
- tables on the web site, concerning the main structural characteristics of the Italian agriculture at NUTS 2 level (25 tables on: general characteristics, land use, irrigation, livestock, employment, time series)

9.2.b Date of issuing (actual or planned)

Concerning Regular and ad-hoc publications in which data are made available to the public:

The publication *Farm structure survey* has been published on 5th September 2015 on the web and available for the users.

The tables have been published in September 2015.

Data released to Eurostat on May 2015 and on November 2015 (Rural development) have not been published.

9.2.c References for on-line publications.

Farm structure survey: <http://www.istat.it/en/archive/167694>

Tables: agri.istat.it

9.3. Dissemination format - online database

Please provide information about on-line databases in which the disseminated data can be accessed.

Tables concerning the main structural characteristics of the Italian agriculture at NUTS 2 level have been published on the web site (25 tables on: general characteristics, land use, irrigation, livestock, employment, time series) at the address: agri.istat.it

9.3.1. Data tables - consultations

The number of consultations of on-line data tables for a given time period

Please indicate on-line data tables with an indicative number of consultations.

Not available.

9.4. Dissemination format - microdata access

[Not requested]

9.5. Dissemination format - other

[Not requested]

9.6. Documentation on methodology

9.6.a Available documentation on methodology on FSS national survey

Please provide references.

All the publications (both on web and on paper) contain methodological information.

9.6.b Main scientific references

Please provide references.

- Atkinson A. C., Riani M. (2000), "Robust Diagnostic Regression Analysis", Springer, NY.
- Bianchi G., Di Lascio F.M.L., Giannerini S., Manzari A., Reale A., Ruocco G. (2009), "Exploring copulas for the imputation of missing nonlinearly dependent data". Proceedings of the VII Meeting Classification and Data Analysis Group of the Italian Statistical Society (Cladag), Editors: Salvatore Ingrassia and Roberto Rocci, Cleup, p. 429-432. ISBN: 978-88-6129-406-6.
- Bruni R., Reale A., Torelli R. (2001), "Optimization Techniques for Edit Validation and data Imputation", Proceedings of the Statistics Canada Symposium 2001/ "Achieving Data Quality in Statistical Agency: a Methodological Perspective" /XVIIIth International Symposium on Methodological Issues.
- Di Lascio F.M.L., Giannerini S. (2012), "A Copula-Based Algorithm for Discovering Patterns of Dependent Observations". Journal of Classification, 29(1), p. 50-75.
- Luzi et al. (2007). EDIMBUS. "Recommended Practices for Editing and Imputation in Cross-Sectional Business Surveys", August 2007.
- Nelsen R.B. (2006), "Introduction to Copulas (2nd edn)". Springer.
- Riani M., Perrotta D., Torti F. (2012), FSDA: "A MATLAB toolbox for robust analysis and interactive data exploration", Chemometrics and Intelligent Laboratory Systems, in press doi 10.1016/j.chemolab.2012.03.07 .
- Sklar A. (1959), "Fonctions de repartition a n dimensions et leurs marges", Publications de l'Institut de Statistique de L'Université de Paris, 8, 229–231.

9.7. Quality management - documentation

Available documentation on quality

Please provide references.

Metadata on the FSS 2013 are stored in SIDI that is an informative system for documenting the process and the quality of all surveys carried out by Istat, in a standard way.

9.7.1. Metadata completeness - rate

[Not requested]

9.7.2. Metadata - consultations

[Not requested]

10. Cost and Burden

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Co-ordination with other surveys: burden on respondents

Please indicate if there is any co-ordination between surveys to avoid the situation that some farms have to answer multiple questionnaires with the same kind of questions.

To the extent it was possible, we tried to avoid that the same holding was interviewed, at the same period and on similar kind of questions, for FSS 2013 and other short term surveys, by avoiding to select the same unit for two different surveys

(the units already selected for a survey having been flagged in the list). Anyway, in these cases, it was not always possible to replace a unit with another from the same strata.

11. Confidentiality

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The confidentiality is required by law. This report should confirm these arrangements.
Please provide the requested information, taking into consideration that this report is a non-confidential document.

11.1. Confidentiality - policy

Dissemination of micro-data to external users for research purposes

Please mention if micro-data are also disseminated and if yes, the confidentiality provisions that are applied.

FSS 2013 micro-data are released and the confidentiality provisions applied are those foreseen by the Legislative Decree of 9 September 1989, n.322 (concerning the statistical confidentiality) as amended by Legislative Decree n. 281/99, Legislative Decree of June 30, 2003.

11.2. Confidentiality - data treatment

The procedures applied for ensuring confidentiality of the data during dissemination

Procedures can include controlled rounding, cell suppression, aggregation of disclosive information, aggregation rules on aggregated confidential data, primary confidentiality with regard to single data values etc. Main reference: [Handbook on Statistical Disclosure Control](#) (2007).

We published data at aggregated level (regional) and we did not meet cases with problems of confidentiality.

12. Comment

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12.a Any regional specification

Please include relevant information such as on extreme weather conditions in certain region(s) during the agricultural year (reference period), differences in methodology across regions etc.

There was a strong flood in Sardinia in November 2013 (just before the beginning of the interviews). This implied that we had to change a part of the sample of that region and that the interviews started with a big delay.

12.b Possible improvements in the future

Please suggest possible improvements.

-

12.c Other annexes

Please annex any other(s) file(s), deemed as useful, using the "Add file" button.

Please indicate here the nature and purpose of the file(s).

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Related metadata

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Annexes

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