An Phríomh-Oifig Staidrimh
Central Statistics Office

Standard SIMS Report:

Livestock Survey December

Single Integrated Metadata Structure (SIMS) Report

For

Livestock Survey December

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1. Overview

The December Livestock Survey is an annual national publication which uses both administrative and survey data. The purpose of this publication is to estimate livestock numbers at State level in December of the reference year. The estimates for cattle are obtained from the Department of Agriculture, Food, and the Marine (DAFM) administrative data and Irish Cattle Breeding Federation (ICBF) administrative data. The estimates for sheep are obtained from administrative data from DAFM. The estimates for pigs are based on returns from a specialist pig survey. Please see the following URL to view the pig quality report.

https://www.cso.ie/en/media/csoie/methods/pigsurvey/Pig_Survey_Quality_Report_2023.pdf

2. General Information

2.1 Statistical Category

Combination of administrative data and agricultural surveys.

2.2 Area of Activity

Agricultural statistics.

2.3 Organisational Unit Responsible, Persons to Contact

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2.4 Objectives and Purpose; History

The objective of the December Livestock Survey is to compile data on livestock (cattle, sheep & pigs) numbers at State level in December of the reference year. Farm surveys have been conducted in Ireland since 1847. In 1973, because of EU regulation, pig specific surveys were carried out in April, June, August, and December. Since 1998, the pig survey is carried out in June and December only. The CSO continues to conduct a survey to collect data on the number of pigs held on farms under different pig categories (e.g., breeding pigs and other pigs).

Up until 2009, CSO agriculture surveys collected data on the number of cattle held on farms under different cattle categories (e.g., dairy cows, male cattle 3 years and over etc). Since 2010 the CSO does not collect data on cattle. Published cattle numbers come from administrative data held by the DAFM. The DAFM's Animal Identification and Movement (AIM) system is a database which records all bovine birth, movements and disposals. The system captures details of all animal movements, and this administrative data enables the CSO to publish cattle category totals without requiring farmers to supply the CSO with this information. Bull data is received quarterly in aggregate form from the ICBF.
Up until 2016, CSO agriculture surveys collected data on the number of sheep held on farms under different sheep categories (e.g., breeding ewes, rams, other sheep, etc.). Since 2017, the CSO does not collect data on sheep. Published sheep numbers now come from administrative data held by the DAFM. The DAFM's National Sheep & Goat Census is carried out annually and this administrative data enables the CSO to publish sheep category totals without requiring farmers to supply the CSO with this information.

2.5 Periodicity

Annual

2.6 Client

General EU & National Requirements

2.7 Users

- Eurostat (the statistical service of European Commission)
- EU Commission
- DAFM
- Other sections within the CSO.
- Semi-State organisations such as Teagasc.
- General Public

2.8 Legal basis

Regulation (EC) No. 1165/2008 concerning livestock and meat statistics.

3. Statistical Concepts, Methods

3.1 Subject of the Statistics

Livestock Numbers

3.2 Units of Observation/Collection Units/Units of Presentation

The survey's unit of observation are:

- Pigs categorised as Breeding Pigs and Other Pigs. Breeding Pigs are broken down into the sub-categories of Boars, Sows in Pig, Other Sows, Gilts and Gilts in Pig. Other Pigs are broken down into sub-categories based on weight classifications. The Pig data is collected, broken down into the sub-categories of Boars, Sows in Pig, other Sows, Gilts, Gilts in Pig and Other Pigs based on weight classifications. The Pig data is collected from a specialist Pig Survey. https://www.cso.ie/en/media/csoie/methods/pigsurvey/Pig_Survey_Quality_Report_2023.pdf
- Sheep broken down into the sub-categories of Rams, Ewes 2 year and over, Ewes less than 2 years and Other sheep. (As described under 2.4 above, published sheep totals come from DAFM's National Sheep & Goat Census)
- Cattle broken down into the sub-categories of Dairy cows, Other Cows, Bulls, Male cattle 2 years and over, Female cattle 2 years and over, Male cattle 1-2 years, Female cattle 1-2 years, Male cattle under 1 year, Female cattle under 1 year. (As described under 2.4 above, published cattle totals come from the DAFM's AIM administrative data and ICBF administrative data)

Results are presented at State level – the unit of presentation is number of thousand head of livestock.

3.3 Data Sources

Cattle: The results for cattle are obtained from the DAFM's Animal Identification and Movement (AIM) system. Breeding Bull data is received from the ICBF.

Sheep: The results for sheep are obtained from DAFM's National Sheep & Goat Census.

Pigs: A specialist pig survey is conducted by the CSO due to the intensive nature of this activity.

3.4 Reporting Unit/Respondents

Agricultural holdings where the agricultural area utilised for farming is one hectare or more. Farms with less than 1 hectare may also be included if they were engaged in intensive production.

3.5 Type of Survey/Process

Administrative data from the DAFM and the ICBF, Postal Survey (with web survey option).

3.6 Characteristics of the Sample/Process

3.6.1 Population and Sampling Frame

For Pig data, an independent stand-alone CSO register of pig farms is used, which holds all identifiable specialised pig farms in the state. It is linked to the general CSO farm register by reference number. For respondent management purposes, it is stored electronically within the CSO farm register.

3.6.2 Sampling Design

The pig survey is a census of the large pig farms (greater than 200 head) which are responsible for most of the pig farming within the state.

3.7 Survey Technique/Data Transfer

The pig survey is carried out by post and the option to return the form electronically is also available. Follow up reminders are sent to non-respondents.

3.8 Questionnaire (including explanations)

The Pig Survey is a two-page questionnaire, and there is also an electronic version of the pig survey available for completion.
https://launch.survey.cso.ie/

3.9 Participation in the Survey

The Pig Survey is a voluntary survey on respondents.

3.10 Characteristics of the Survey Process and its Results

Results are published for the following categories;

- Total Cattle
  - Dairy Cows
  - Other Cows
  - Bulls
  - Cattle male 2 years and over
  - Cattle female 2 years and over
  - Cattle male 1 - 2 years
  - Cattle female 1 – 2 years
  - Cattle male under 1 year
  - Cattle female under 1 year

- Total Sheep
  - Breeding Sheep
    - Ewes 2 years and over
    - Ewes under 2 years
    - Rams
  - Other Sheep

- Pigs
  - Breeding Pigs
    - Boars
    - Sows in pig
    - Other Sows
    - Gilts in pig
    - Gilts not yet served.
  - Other Pigs by live weight
    - Pigs under 20 kg
    - Pigs 20 – 50 kg
    - Pigs 50 – 80 kg
    - Pigs 80 – 110 kg
    - Pigs 110 kg and above

Results are published for all the above collection categories of pigs with the exception the of the "80 – 110 kg" and "110 kg and above" categories which are combined as the "80kg and above" category.

The results for sheep come from administrative data from DAFM's National Sheep & Goat Census.

The results for cattle come from administrative data from the Animal Identification & Movement (AIM) system and data from the ICBF.

3.11 Classifications used.

The classifications used are listed at 3.10 above and are based on Eurostat legal requirements.

4. Data Capture, Coding, Data Editing and other Quality Assurance Techniques Used

4.1 Data Capture

All Pig data (received by post or phone) is keyed into the electronic Questionnaire at https://launch.survey.cso.ie/, and the datasets are then uploaded into the Data Management System (DMS) for edit checks etc. A clean dataset is exported from the Data Management System to SAS for analysis.

4.2 Coding

Coding is used within survey process.

4.3 Data Editing

Data editing is performed using the DMS. Edit rules focus on differences between current and previous year's returns. Year on year changes at unit level and item are compared and differences are edited.
The percentage change in the matched sample is applied to previous years estimate.

4.4 Imputation (for Non-Response or Incomplete Data Sets)

Imputation is not used.

4.5 Grossing and Weighting

Results for pigs are based on a matched sample methodology, so no grossing or weighting is used.

4.6 Computation of Outputs, Estimation Methods Used

The results for cattle and sheep are obtained from administrative sources. The pig survey is a de facto census of the specialised pig farms that are responsible for the vast majority of pig farming within the State.

A SAS programme is run to determine the percentage change for each category of pig and forms are examined where the change from one year to the next is outside certain bounds. In cases, where the difference is large and deemed to be incorrect, the farm is excluded from the sample for that category of livestock.

The matched sample methodology data are compared to the Census of Agriculture data collected every ten years. Matched sample results are subject to revision after each Census.

4.7 Other Quality Assurance Techniques Used

- Cross referencing of survey returns against other surveys within Agriculture division and the DAFM (especially the DAFM's October Pig Census).
- Consistent Macro edits within DMS are performed which compare totals over number of years.
- Consultation with experts within industry to ascertain reasons behind emerging trends.

5. Relevance, Accuracy, Non-Sampling Effects, Register Cover and Non-Response

5.1 Relevance

The information is used at European level to monitor the operation of Irish farms. The results are used within the CSO for agriculture and national accounts. They are also used by government departments, companies, and semi- state organisations to monitor trends within the industry.

5.2 Accuracy and Reliability

5.2.1. Sampling Effect & Representativity

Administrative sources are used for cattle and sheep totals and the pig survey is a de facto census of the specialised pig farms that are responsible for the vast majority of pig farming within the state.

5.2.2. Non-Sampling Effects

5.2.2.1 Quality of the Data Sources used (other than survey register)

No other data sources used in preparation of results.

5.2.2.2 Register Coverage

In the case of the Pig register, the register is intended to cover all specialist pig farms. Whereas there is likely to be some minor coverage issues, these are unlikely to affect results due to match sample methodology. The agriculture register is updated with new farms as identified in administrative records held by the DAFM.

5.2.2.3 Non-response (Unit and Item)

Farms who fail to respond are removed from the analysis and calculation of percentage change.
At item level, as many farms do not contain all categories these are included in analysis as actual zero.

5.2.2.4 Measurement Errors

Measurement errors are not formally calculated for the Survey. The questionnaire is clear and unambiguous and easily understood by respondents.

5.2.2.5 Processing Errors

The potential for processing errors is limited due to well defined processes within the DMS. Numerous edit checks are performed to ensure reasonableness of the data used at aggregation stage. Macro edit checks, where totals for each category are compared with previous years are performed on all results to ensure consistency and identify processing errors.

5.2.2.6 Model-related Effects

No known model related effects.

5.3 Timeliness and Punctuality

5.3.1 Provisional Results

No provisional results are produced.

5.3.2 Final Results

Results from the December Livestock Estimates are published at t+12 weeks after the reference date of the data collection. Data are transmitted to Eurostat in adherence with deadlines in Regulation (EC) No. 1165/2008 (livestock statistics).

5.4 Coherence

Consistency checks against other data providers, Teagasc, Bord Bia, DAFM.

5.5 Comparability

As a common legislative framework is in place across the European Union for this survey, results are comparable against other European Union countries.
In terms of times series, results are comparable from 2005 to date for livestock numbers.

5.6 Accessibility and Clarity

5.6.1 Assistance to Users, Special Analyses

All assistance within the bounds of maintaining confidentiality is given to users.
Decisions on whether to perform special analyses are taken on a case by case basis.

5.6.2 Revisions

Revisions do not usually occur from one survey to the next, but revision may take place due to changes in methodologies and data collection methods.

5.6.3 Publications

5.6.3.1 Releases, Regular Publications

Livestock Estimates December

The release is available on the CSO website at 11am on the day of publication.
https://www.cso.ie/en/statistics/agriculture/livestocksurveydecember/

5.6.3.2 Internet

Livestock Numbers in December
https://data.cso.ie/table/AAA06

And on the Eurostat website at:
http://ec.europa.eu/eurostat

5.6.4 Confidentiality

All data from respondents are treated as strictly confidential in accordance with the Statistics Act 1993.
Care is taken to ensure that disclosure of potentially confidential results is avoided.

6. Additional documentation and publications

The entry for this statistic under PxStat (the portal to Ireland's official statistics) is at
https://data.cso.ie/#