

**Standard Report
on
Methods and Quality**

For

Production of Milk and Milk Products

This documentation applies to the reporting period:

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1 Overview

The Production of Milk and Milk Products survey is a relatively small monthly survey of 55 dairy processors and supplier co-ops in the country. The survey is a de facto census as the dairy processors surveyed are responsible for the vast majority of the production of milk and milk products within the state.

The survey was initiated to meet EU requirements in the 1970s. The survey's primary purpose is to provide information on the amount of cow's milk processed by dairy processors, which in turns gives an indication of the amount of milk being produced by the country's farmers. It also provides information on the fat and protein content of the milk being processed.

The survey also enquires as to the quantity produced of certain dairy products such as drinking milk, butter and skimmed milk powder. The survey also enquires as to the amount of milk imported by the processor for processing. The amount of milk imported excludes milk already pre packaged for human consumption.

Data collection is carried out by means of a postal survey with follow up reminders by telephone and email. Data dissemination is carried out by means of paper release and CSO databank. Dissemination normally takes place within a month of the reference period.

2 General Information

2.1 Statistical Category

Primary statistical survey.

2.2 Area of Activity

Agricultural and Industrial statistics.

2.3 Organisational Unit Responsible, Persons to Contact

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2.4 Objectives and Purpose; History

The survey was introduced in the seventies initially in response to Council Directive 72/280/EEC. This directive stated that in order for the Commission to carry out its duties under the Treaty and under Community provisions on the common organisation of the market in milk and milk products, there was a requirement for precise information about the production and use of milk and regular, specific, short-term information about the delivery of milk to undertakings or establishments which treat or process milk and about the production of milk products in the Member States of the Community. Initially certain characteristics were required on a weekly basis however due to amendments to the directives, characteristics are now only required on a monthly basis. The directive was replaced in 1996 by [Council Directive 96/16/EC](#) in order to consolidate the previous directives.

In Ireland, due to the many mergers and acquisitions within the dairy sector the number of processors has decreased significantly. However the amount of annual production has increased from approximately 4,400 million litres of milk in 1980 to 5,000 million litres in 2008. The annual amount of cheese production has increased dramatically from approximately 18,100 tonnes in 1980 to 174,500 tonnes in 2008.

Some products such as cheese are surveyed on an annual basis due to difficulties with factories providing estimates on a monthly basis. From early 2004 monthly estimates of cheese production are based on actual annual totals.

2.5 Periodicity

Monthly

2.6 Client

General EU & National Requirements

2.7 Users

- Eurostat (the statistical service of European Commission)
- EU Commission
- Department of Agriculture
- Other sections within the C.S.O.
- Semi-State organisations such as the National Milk Agency and Bord Bia.
- Private Companies such as Irish Dairy Board.

2.8 Legal basis

The prime legal basis is [Council Directive 96/16/EC](#).

3 Statistical Concepts, Methods

3.1 Subject of the Statistics

Production of Milk and Milk products.

3.2 Units of Observation/Collection Units/Units of Presentation

The survey's unit of observation are cows milk collected by creameries and pasteurisers in the state, milk imported from outside the state for processing, sales of milk products and products obtained from milk (butter, cheese and Skimmed Milk Powder). The units of collection are creameries and pasteurisers in the state. Milk production, imports of milk, and sales of milk are presented in million litres, and products obtained from milk are presented in thousands of metric tonnes.

3.3 Data Sources

None as this is a primary survey.

Department of Agriculture data on milk quotas used as a quality check. In very limited cases Department milk production are used where not available directly due to non-response.

3.4 Reporting Unit/Respondents

All creameries and pasteurisers in the country.

3.5 Type of Survey/Process

Monthly postal survey.

3.6 Characteristics of the Sample/Process

3.6.1 Population and Sampling Frame

A register of all creameries and pasteurisers is kept in the CSO's Data Management System (DMS) and this is considered complete and is sampled exhaustively monthly (except in cases where respondent has refused).

3.6.2 Sampling Design

Census.

3.7 Survey Technique/Data Transfer

The survey is carried out primarily by post and follow up to non-response by e-mail, telephone and fax.

3.8 Questionnaire (including explanations)

The questionnaire is a one page questionnaire which is simple in design to allow easy usage.

Please see the following URL to view the survey form =>

http://www.cso.ie/surveysandmethodologies/surveyforms/ag_form_prodmilk.htm

3.9 Participation in the Survey

The survey is a voluntary survey on respondents.

3.10 Characteristics of the Survey/Process and its Results

Normally results are calculated from a simple aggregation of returns. Information collected on four or five week cycles are adjusted to a calendar month using excel, with care taken that total production for a concern over time corresponds with actual returns. For non-responses, imputation is based on previous year return adjusted for previous month trend (This is temporary method of imputation as in majority of cases response is received in following month). Due to its production cycle, cheese production is calculated on a yearly basis in consultation with experts from the dairy industry and public sector.

Aggregated results are published monthly for the following variables:

- Domestic milk intake (and its percentage fat content)
- Total milk sold for human consumption broken into whole, semi-skim and skimmed milk.
- Butter
- Skimmed milk powder
- Cheese
- Imported Milk

Other aggregates are created on ad-hoc basis for specific user requests.

3.11 Classifications used

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

3.12 Regional Breakdown of Results

Regional breakdown is not published by CSO. NUTS2 (Nomenclature of Territorial Units for Statistics) data are submitted to Eurostat on a triannual basis however much of the data are marked as confidential. The Nomenclature of Territorial Units for Statistics (NUTS, for the French nomenclature d'unités territoriales statistiques) is a geocode standard for referencing the subdivisions of countries for statistical purposes.

4 Production of the Statistics, Data Processing, Quality Assurance

4.1 Data Capture

Data capture is performed manually using the DMS

4.2 Coding

There is no coding used within survey process.

4.3 Data Editing

Data editing is performed using the DMS. Edit rules focus on difference between current and previous years returns. Comparison checks are done with Department of Agriculture data when available for milk intake using excel.

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

Non-response is limited and calculated using Excel on the basis of previous years return initially, with follow up in following month to ascertain actual figures. In a small number of cases where non-response is continuous Department of Agriculture data are used.

4.5 Grossing and Weighting

Not Applicable.

4.6 Computation of Outputs, Estimation Methods Used

Outputs are normally calculated by simple aggregation of returns. Some technical co-efficient are used such as converting from liquid milk to KG.

4.7 Other Quality Assurance Techniques Used

- Biannual survey of companies to ensure any merger not picked up at collection stage is captured.
- 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 Quality

5.1 Relevance

The information is used at European level to monitor the operation of the milk market across the EU. The prime legal basis is [Council Directive 96/16/EC](#) which requires Ireland to conduct the survey. The results are used within the CSO for agriculture and national accounts. They are also used by the government departments, companies and semi state organisation to monitor trends within the industry.

5.2 Accuracy and Reliability

5.2.1. Sampling Effect & representivity

Census methodology so no sampling.

5.2.2. Non-Sampling Effects

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

The Department of Agriculture data is judged to be of a very high quality in terms of accuracy. This data is used for calculation of the super levy thus is subject to regular inspections and checks which would ensure its high quality.

5.2.2.2 Register Coverage

In general the register covers all significant creameries and pasteurisers in the country.

(a) The legislative framework is very wide ranging and covers goat, ewe and buffalo milk production also. This type of milk production is very small in Ireland and is not covered by our figures as it is not considered economically significant. The CSO monitors this to ensure that this assumption remains the case.

(b) Whilst aware of the growth of on-farm production of cheese, most units are considered too small (even in aggregate form) to be economically important.

5.2.2.3 Non-response (Unit and Item)

The dairy industry as a whole have been very co-operative with this survey. Occasionally there may be a delay in completion of a return (normally due to technical issue rather than non-response) which in turn leads to a temporary imputation based on trends and previous years data for that month. There are a very small number of companies who refuse to complete the survey, these companies are imputed on the basis of administrative data. The total amount consistently imputed is approximately one million litres from a total State production of five thousand million litres.

5.2.2.4 Measurement Errors

Measurement Error is not formally calculated for this survey. There is little likelihood of measurement error in Questionnaires as the questionnaire is clear, the terms used are standard for the dairy industry and are readily understood by respondents. The main source of this error would seem to be where a respondent gives incorrect data. To ensure this is kept to a minimum, data are compared to previous returns and other edit checks are performed on data which are returned.

5.2.2.5 Processing Errors

After measurement errors are eliminated potential for processing errors are limited due to well defined processes within the DMS. Standard operating procedures are maintained to ensure this. Macro year on year edit checks are performed on all results to ensure consistency and identify processing errors.

5.2.2.6 Model-related Effects

Not Applicable.

5.3 Timeliness and Punctuality

5.3.1 Provisional Results

No Provisional Results.

5.3.2 Final Results

Final results are produced on a monthly basis, on T+1 month basis with exception of December which is produced on a T+45 days basis due to the time constraint imposed by Christmas holidays within the Dairy Industry. Data are transmitted at NUTS 2 region to Eurostat on a triannual basis.

5.4 Coherence

Coherence between administrative sources and survey results is checked regularly and found to be high.

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. Due to differing product definitions caution should be used when comparing against Prodcum results and non-EU countries. For example cheese production in this release only includes natural cheese whereas other product definitions may include processed cheese.

In terms of times series, results are generally comparable for the entire series. However as there has been major consolidation and technological reforms in the Irish dairy industry, care should be taken in comparing data between the start and end of the time series.

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 are common up to the three months after publication. The main reason is due to responses being late. Any major revisions due to an error by the CSO are highlighted on the front page. In 2008 the category "Domestic Milk Intake by creameries and pasteurisers" was the most revised category. The scale of these revisions is on average .5 million litres and the average percentage revision is .6%.

5.6.3 Publications

5.6.3.1 Releases, Regular Publications

The Milk Statistics release is published monthly on the CSO website. The data is also uploaded to the CSO databank on the day of release. The data is then used by Eurostat in many datasets available publicly.

5.6.3.2 Statistical Reports

Eurostat produce thematic reports based on this data e.g. "From grass to glass; a look at the dairy chain "- Issue number 76/2008.

http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-SF-08-076

The data among other is used by the Irish Dairy Board in their annual report and the Department of Agriculture reports.

5.6.3.3 Internet

As mentioned the data is available from the CSO databank

<http://www.cso.ie/px/pxeirestat/database/eirestat/Agriculture%20Milk%20Production/Agriculture%20Milk%20Production.asp>

and Eurostat website.

<http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home>

5.6.4 Confidentiality

All data received is treated as strictly confidential as stated in the Statistics Act 1993. Care is taken to ensure that disclosure of potentially confidential results is avoided..

6 Additional documentation and publications

Much of the data are published by Eurostat in its Statistic In Focus publications.

http://epp.eurostat.ec.europa.eu/portal/page/portal/publications/collections/sif_dif

The entry for this statistic under StatCentral (the portal to Ireland's official statistics) is at

<http://www.statcentral.ie/viewstat.asp?id=153>