

# Milk and milk products statistics

## Quality Report

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### 1 Contact

#### 1.1 Contact organisation

Natural Resources Institute Finland

#### 1.2 Contact organisation unit

Statistical services

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### 2 Metadata update

#### 2.1 Metadata last certified

29.6.2022

#### 2.2 Metadata last posted

29.6.2022

#### 2.3 Metadata last update

29.6.2022

## 3 Statistical presentation

### 3.1 Data description

The statistics contain monthly and annual data on milk production, number of milk producers, fat and protein contents of producer milk, and the quantities of produced milk products and organic milk. The statistics also contain data on the domestic sales of cheese and the stock of cheese and butter.

Data on milk production by area and the number of farms by municipality, ELY Centre, and support area is published yearly.

Annual data on milk consumption on farm and on average yield of dairy cow is also published.

### 3.2 Classification system

#### **Production volumes**

The production volumes of milk include special milks. Milk drinks and organic milk are included in the pasteurised full-cream, semi-skimmed, and skimmed milks.

The production volumes of milk include flavoured creams.

Yoghurts and curd milks include flavoured and unflavoured yoghurts and curd milks.

Sour cream products include crème fraîche, sour cream, and smetana.

Other fresh products include, for example, flavoured curd cheese, milk-based dressings, and desserts. Since 2020, puddings, ice creams, and milk and whey-based drinks have been included in this classification.

Cream cheeses include cottage cheese, bread cheese, unflavoured curd cheese and other cream cheeses.

#### **Domestic sales and stock**

Domestic sales of aged cheeses include processed cheese.

Domestic sales of cream cheeses do not include cottage cheese and curd cheese. The stock of cheese includes aged cheeses.

### **Milk production by area**

The classification of farms into regions is based on the municipality in which a farm's administrative centre is located.

### **3.3 Sector coverage**

The statistics include all dairies that receive milk from producers. Businesses with smaller scale business operations are not included in the statistics.

### **3.4 Statistical concepts and definitions**

The production quantities of milk products include only the production of marketable final products. Intermediate goods used in the production of other milk products are not included in the statistics.

The domestic sales of cheese include domestically produced cheeses. Domestic sales include the sales of milk products for direct consumption, for example to wholesalers, stores, mass caterers, non-dairy industries, and consumers.

The stock of cheese and butter includes end products in stock, meaning that the stock of cheese only includes cheese old enough for sales.

The published annual data on milk consumption on farms includes milk suitable for use for food products. Thus, milk given to livestock does not include antibiotic milk given to calves or milk with too high somatic cell count. Milk consumption on farms includes beestings.

The average yield of dairy cows in the annual statistics is calculated by dividing the total milk production by the average number of dairy cows. The number of dairy cows on average is the average number of dairy cows on farm on the first day of each month.

Data on milk production by area includes milk supplied to dairies by farms. The number of farms includes farms by which milk has been supplied to dairies during the statistical year.

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### 3.5 Statistical unit

The statistics describe the development of milk production, number of milk producers, and the quantities of produced milk products.

Statistical data is collected from dairies and farms. Data on milk production by area is based on the administrative milk register.

### 3.6 Statistical population

All dairies that receive milk from producers are included in data collection. The statistical population of establishments producing milk products is based on the register of approved establishments in the milk industry, maintained by the Finnish Food Authority. Data collection does not include all enterprises with small-scale operations.

Data on on-farm milk consumption is collected from farms with a sample survey every three to four years. The statistical population of the sampling includes all farms that have dairy cows and are registered in the register of agricultural and horticultural enterprises. Registered farms include agricultural and horticultural enterprises, the financial size of which is at least EUR 2,000. The financial size is determined by using the Standard Output method.

### 3.7 Reference area

The reference area of the statistics is the whole of Finland, ELY Centres, and support areas.

### 3.8 Time coverage

Information on milk production is available on the website since the year 1960.

Information comparable to the current statistics on milk production by area is available starting from year 2005. Information on milk production by area was published every quota period when the quota system was used. The quota period was 1.4–31.3, and information is available from the quota period of 1997/98 to 2014/15.

### 3.9 Base period

The statistics are not an index.



## 4 Unit of measure

Milk production, the production of milk products, domestic sales, and the stocks of cheese and butter are given in kilogrammes or litres in the monthly statistics. The number of milk producers is given in numbers.

Information in the annual statistics is given in kilogrammes and in millions of litres.

## 5 Reference period

The reference period of the monthly statistics is a month. The reference period of the annual statistics is a calendar year.

## 6 Institutional mandate

The duties of the Natural Resources Institute Finland have been defined in the Act on the Natural Resources Institute Finland (561/2014) and the Act on the Food and Natural Resources Statistics (562/2014). The Act on the Food and Natural Resources Statistics defines the duties of the Natural Resources Institute Finland to be compiling and publishing statistics regarding:

- 1) the structure, production methods, and input in production of agriculture; the production of crops, horticulture, and livestock; the environmental effects of production, and the prices of agricultural products,
- 2) commercial utilisation of forests, activity of the wood market, conservation and maintenance of forests,
- 3) fishing, aquaculture, fisheries, the market of fisheries, and
- 4) the safety of food products.

The act gives the Natural Resources Institute Finland extensive permissions to collect information on agriculture, horticulture, aquaculture, processing and trade of agricultural and aquacultural products, forestry, and the processing and trade of wood.

The Statistics Act (The Statistics Act 280/2004, 361/2013) legislates on, including but not limited to, data collection, data processing, and duty of disclosure. In addition to the Statistics

Act, the Personal Data Act and the Act on the Openness of Government Activities are applied when processing data for compiling statistics.

The main document guiding our actions is the perennial European statistical programme, approved by the European Parliament and the Council of Europe, based on which the commission produces an annual work programme. The statistics included in the European Statistical Programme are prescribed in the Council Regulation 322/97.

The Statistical Office of the European Union, Eurostat, and the statistical offices of EU countries must apply the EU's Statistics Act when compiling statistics following the work programme. As a supranational regulation, it surpasses the national Statistics Act but in practice there are no contradictions between the Statistics Acts of the EU and Finland.

## 6.1 Legal acts and other agreements

The statistics are compiled based on the Act on the Natural Resources Institute Finland (561/2014), the Act on Food and Natural Resource Statistics (562/2014), and the Statistics Act (280/2004). Additionally, the Council Directive 1996/16 contains obligations on statistical surveys of milk and milk products.

## 6.2 Data sharing

Data on milk production is published monthly on the Natural Resources Institute Finland website. A webpage, announcements, news, and blogs regarding the statistics can be found on the website of the Natural Resources Institute Finland. Tables relating to the statistics are available on the statistics database of the Natural Resources Institute Finland.

# 7 Confidentiality

## 7.1 Confidentiality - policy

Confidentiality is a base principle of statistics and assures the confidential processing of data provided by informants, and the Natural Resources Institute Finland has undertaken to follow this principle. Micro-data is confidential and must never be

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released for governmental decision-making, investigation, surveillance, legal proceedings, or similar purposes.

### 7.2 Confidentiality - data treatment

The confidentiality of data collected for statistical purposes is guaranteed according to the Statistics Act (280/2004), the Personal Data Act (523/1999), the Act on the Openness of Government Activities (621/1999), and the EU General Data Protection Regulation (2016/679). Data is protected at all stages of processing using the necessary physical and technological solutions. The staff only has access to information necessary for their duties. Unauthorised people do not have access to spaces in which micro-data is processed. Staff members have signed a non-disclosure agreement when entering duty. Intentional breach of confidentiality will be penalised.

## 8 Release policy

The disseminations of the Natural Resources Institute Finland are published online on weekdays at 9:00. Data is public after it has been published on the website.

### 8.1 Release calendar

The publication dates are confirmed in autumn together with the action plans. The release calendar of the following year is published for users in the end of the year. The release calendar holds data on the dates of future publications. The publication dates are published in the calendar at first with an accuracy of one week, and two months prior to the publication date with an accuracy of a day. The calendar also contains direct links to already published statistical publication.

### 8.2 Release calendar access

[Statistical releases calendar | Natural Resources Institute Finland](#)

## 9 Frequency of disseminations

Monthly (preliminary), quarterly, and annually.

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### 10 Dissemination format

#### 10.1 News release

Preliminary statistics on milk production is usually published on the 25th day of the following month, or on the following weekday.

Statistics on milk production by area (by municipality, ELY Centre, and support area) is published annually in March. Additionally, information on milk production by ELY-Centre is published quarterly in the monthly publication.

#### 10.2 Publications

Data on meat production is published in the e-yearbook of food and natural resources statistics.

The statistical office of the European Union, Eurostat, and the Food and Agriculture Organization of the United Nations, FAO, publish data from the statistics on their websites.

#### 10.3 On-line database

[PxWeb - Milk and milk products statistics](#)

#### 10.4 Other

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#### 10.5 Documentation of methodology

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#### 10.6 Quality documentation

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### 11 Quality management

#### 11.1 Quality assurance

The Natural Resources Institute Finland follows the Code of Practice and the Quality Assurance Framework of European statistics when compiling statistics. The Code of Practice concern the independence and accountability of statistics authorities, and the quality of processes and published data. The principles are compatible with and supplement the

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Principles of Official Statistics, agreed upon by the United Nations Statistical Commission. The quality criteria of official statistics in Finland are also compatible with the Code of Practice of European statistics. The principles are also compatible with the European Foundation for Quality Management.

The quality assurance of statistics performed by Statistics Finland includes statistics produced by the Natural Resources Institute Finland.

The response material of the statistics is reviewed and edited on a monthly basis. Additionally, the non-response is investigated based on variable background information.

### 11.2 Quality assessment

The response material of the statistics is reviewed and edited on a monthly basis. Additionally, the non-response is investigated based on variable background information.

## 12 Relevance

Feedback is collected from the users of the statistics in a meeting regarding statistics reforms, and as written comments. Feedback is also received directly. We follow the received feedback and take it into consideration in developing the statistics.

### 12.1 User needs

Users of the statistics include the government, research, agricultural and food industries, and unions of agricultural producers. International users of the data include the Statistical Office of the European Union and the Food and Agriculture Organization of the United Nations.

### 12.2 User satisfaction

Feedback is collected from the users of the statistics, especially when revising the statistics. Feedback is also received directly. In addition, we investigated the wishes of users for developing the statistics in the autumn of 2021 and beginning of 2022, when updating the work programme for the Natural Resources

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Institute Finland. We follow the received feedback and take it into consideration in developing the statistics.

### 12.3 Completeness

The statistics meet all requirements of EU regulations.

## 13 Accuracy and reliability

### 13.1 Overall accuracy and reliability

The reliability of the statistics can be considered good because the total milk processing volumes of all enterprises in the data collection cover approximately 98% of the milk volumes processed in all dairy plants.

Data on milk volumes received by dairies can be considered reliable, as data is collected from all dairies receiving milk.

Reliability of data on milk use on farm may be lowered by non-response. Accuracy is also affected by the sample not being the best possible population to represent an activity only a few farms engage in. This applies particularly to the estimation of other milk use.

Data on milk production by region can be considered reliable, as the primary buyers of milk report data on bought milk in the milk register.

### 13.2 Sampling error

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### 13.3 Non-sampling error

#### 13.3.1 Coverage error

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#### 13.3.2 Measurement error

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#### 13.3.3 Non-response error

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### 13.3.4 Processing error

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### 13.3.5 Model-based error

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## 14 Timeliness and punctuality

### 14.1 Timeliness

Monthly information is usually published on the 25th day of the following month, or the following weekday. Monthly information is preliminary. Annual statistics are published at the end of February, this information is final.

Information on milk production by area is published in March of the following year, this information is final.

### 14.2 Punctuality

The statistics have been published according to the publishing date declared in advance.

## 15 Coherence and comparability

### 15.1 Comparability - geographical

Data by ELY Centre is comparable.

### 15.2 Comparability - over time

The time series of the statistics are mostly comparable.

The production volumes of pasteurised and UHT-processed milks were given separately until 2021. Since 2022, data on milk is presented in the following categories (including pasteurised milk, UHT-processed milk, and milk beverages):

- Skimmed milk, 1% and below
- Low-fat milk, over 1% – 3%
- Whole milk, over 3%

In 2013, the information content of the statistics was changed to better take into consideration the statistical confidentiality. Product groups were combined into more comprehensive groups in statistics on production volumes. Data on the

production volumes of milk and whey-based drinks, fat mixtures, processed cheese, powdered milk containing fat, fat-free powdered milk, and powdered whey is no longer published in the statistics. Since 2013, the sales volumes of cheese are the only domestic sales data published, and cheese and butter storage volumes at the end of the month are the only storage data published. The monthly time series were changed to correspond with the new classifications in 2007.

Since 2007, the volumes of produced feta cheese have been recorded as cream cheese, and prior to 2007 as aged cheese. The coverage of statistics on cream cheeses increased in early 2007, thus, data on the production volumes of cream cheeses is not fully comparable before and after 2007.

Until 2007, data on direct sales of milk and consumption of milk for the production of home cheese was published separately in the statistics. Since 2008, this data has not been collected separately and direct sales of milk and consumption of milk for the production of home choose is included in the category "other use".

### **Data on milk production by area and the number of farms**

Data comparable to the current statistics on milk production by area is available starting from year 2005. Data by area is not fully comparable due to changes to area classifications.

[Luokitustiedotteet | Tilastokeskus \(stat.fi\)](#)

Information on milk production by area was published every quota period when the quota system was used. The quota period was 1.4–31.3, and information is also available from the quota periods of 1997/98–2014/15.

Data on milk production by area was previously published by Employment and Economic Development Centres (EEDC). EED Centres were abolished 31.12.2009 and replaced by Centres for Economic Development, Transport and the Environment (ELY Centre) 1.1.2010. The abolishment of EED Centres does not affect the time series of the statistics.

## 15.3 Coherence - cross domain

The statistics are compiled as EU-harmonised surveys in all current and future EU countries.



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### 15.3.1 Coherence between sub annual and annual statistics

Monthly data is preliminary, as some changes to quantities are reported after publishing the statistics. Annual statistics are published at the end of February, this data is final.

### 15.3.2 Coherence with National Accounts

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### 15.4 Coherence - internal

The data in the statistics is coherent. The statistics are the only regular (monthly) survey on the production of milk and milk products in Finland. The most important questions in the survey are the same in all EU countries.

Because the primary purpose of the indicators in the statistics is to monitor the production volumes, we try to not make changes to the survey methods and questions.

## 16 Cost and burden

-

## 17 Statistical processing

### 17.1 Source data

The data collection set is based on the register of approved establishments on the milk sector, maintained by the Finnish Food Authority. The data collection set is revised annually.

### 17.2 Frequency of data collection

Data is collected monthly from dairies and establishments of the milk sector.

Data on the on-farm use of milk is collected from farms every 3 to 4 years.

### 17.3 Data collection

Monthly data is collected from establishments through a web application. Establishments provide monthly data at the 15th day of the following month at latest.

Data on milk production by area is based on the administrative milk register. The register includes all farms providing milk to

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dairies. Dairies buying milk from producers report data on milk received per producer monthly to the register.

Data on milk consumption on farms is based on data collected from farmers as a sample survey. This data is collected online. The sample has been stratified into three groups based on geographical location, production line, and farm size. This creates a representative sample of the entire country. The sample survey was conducted previously in 2022, and the statistical population consisted of a little over 5,000 farms with dairy cows. A sample of 1,500 farms was picked from these farms, and data on milk consumption on farm was collected from this sample.

### 17.4 Data validation

If for example an abnormally large observation is spotted during the data compilation process, the authenticity of data is reviewed. In a sample survey a farm is removed from the stratum and a separate stratum is formed from the farm, so that an abnormal observation does not weigh too much in the original stratum.

### 17.5 Data compilation

Data on milk consumption on farm collected with a sample survey is estimated using the normal factor estimating of stratified random sampling and ratio estimation. The response rate of the sample surveys has been approximately 90%.

If data is not received in time from a dairy, the missing data is imputed using the averages of previous months of said dairy. The correct data will be included in the statistics whenever it is received from the dairy.

### 17.6 Seasonal adjustment

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## 18 Comment

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