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**Agricultural Statistics**  
**ANNUAL REPORT OF MILK**  
**COLLECTION AND PRODUCTION**  
**OF DAIRY PRODUCTS**



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**Agency for Statistics of  
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**Users are kindly requested to refer to the data source**

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# **ANNUAL REPORT OF MILK COLLECTION AND PRODUCTION OF DAIRY PRODUCTS (ALL KINDS OF MILK)**

## **LEGAL BASIS**

According to the Law on Statistics of Federation of Bosnia and Herzegovina („Official Gazette of the Federation of B&H“, No. 63/03 and 9/09) and the Law on Statistics of Republika Srpska („Official Gazette of RS“, No. 85/03) the Survey is conducted by entity statistical institutes: Federal Institute of Statistics of F B&H and Institute of Statistics of Republika Srpska. The Agency for Statistics of B&H in line with the Law on Statistics of B&H (“Official Gazette of B&H”, No. 26/04 and 42/04) is authorized for compilation, aggregation and international reporting for the state level.

## **METHODOLOGICAL BASIS**

### ***Objective and summary survey***

According to the Council Directive 96/16/EC and Commission decision 97/80/EC, Agency for Statistics of Bosnia and Herzegovina, in cooperation with Federal Institute of Statistics and Institute of Statistics of Republika Srpska, should provide the following data:

- The quantities of all types of milk (cow, sheep and goat) were collected by dairies
- The content of fat and protein in the collected milk and milk fat content in dairy products obtained in tons
- Quantities of dairy products and groups of products produced from all types of milk in dairies
- Data on exports and imports of milk and milk products (all kinds of milk)

### ***Observation units***

Observation units for collecting annual data on collected all kinds of milk and realized annual production of the main groups of milk products are dairies registered on the territory of Bosnia and Herzegovina.

### ***Coverage***

This survey covers all companies/dairies collecting and processing all kinds of milk and milk products on the territory of Bosnia and Herzegovina.

### ***Method and time of data collection***

The survey is conducted by reporting method and covers all companies/dairies collecting and processing all kinds of milk and milk products.

Reporting units submit the data on collecting all kinds of milk and production of milk products using unique form, and accounting and financial data. Surveys are conducted on annual basis.

Federal Institute of Statistics of F B&H and Institute of Statistics of Republika Srpska are obliged to submit the data to the Agency for Statistics of B&H on 15. April for previous year.

### ***Obligation for the protection of personal data***

The data submitted by this survey are exclusively used for statistical purposes and will not be published separately. The protection of personal data is regulated by the Law on the Statistics of Bosnia and Herzegovina ("Official Gazette of B&H", No 26/04 and 42/04), Law on the Statistics of Federation of Bosnia and Herzegovina („Official Gazette of the Federation of B&H, No. 63/03 and 9/09), Law on the Statistics of Republika Srpska („Official Gazette of RS“, No. 85/03), and by the Law on the Protection of Personal Data ("Official Gazette of B&H", No. 49/06).

## **DEFINITIONS AND EXPLANATIONS**

### ***Basic Concepts***

Milk: includes cow, sheep, goat milk and buffalo cows.

### **DRINKING MILK (11)**

**Milk drinking (drinking milk):** here are the raw milk, whole milk, partly skimmed milk or skim milk and no additives. This milk is intended for direct use (consumption) and includes milk with added vitamins.

**Raw milk (111):** milk secretion produced by the mammary glands of one or more cows, sheep, goats or buffaloes, which has not been heated above 40 ° C or undergone any treatment that has the same effect.

**Whole milk (112):** milk which has been subjected to the effects of temperature or other approved treatments equivalent effect, whose natural fat content of at least 3.5%, or brought to the contents of at least 3.5%.

**Partially skimmed milk (113):** milk which has undergone the effects of temperature or other approved treatments equivalent effect, whose fat content has been brought up to at least 1.50% but less than 1.80%.

**Skim milk (114):** milk which has been subjected to the effects of temperature or other approved treatments equivalent effect, whose fat content has been brought up to 0.30%.

### **Treated milk**

All milk to drink except for raw milk can be treated by pasteurization, sterilization, UHT treatment.

**Pasteurized milk:** Pasteurized milk is milk subjected to high temperature short time (less than 71.7 ° C, 15 seconds) or other pasteurization process using different combinations of temperature and time in order to achieve the same effect.

### **Sterilized milk is to:**

- Buddha heated and Sterilized in sealed envelopes or packages, which must remain intact
- In the case of random sampling, to be guarded so that no quality changes ahead after 15 days in a sealed container at a temperature of +30 ° C

**UHT Milk** (Ultra-high-temperature processing milk) must be produced continual passing of heat using high temperature short time (134 ° C for 1 second).

## **BUTTERMILK (12)**

**Buttermilk:** remaining in the organic production of milk or cream into butter (butter) and the constant churning of separation solid fats (Can be sour or acidic). Buttermilk with additives must be included in beverages with milk base.

## **CREAM (13)**

**Cream:** a film of fat which forms naturally on the surface of the milk by slow agglomeration of emulsifying fat globules. Collected from the surface by removing the milk or the milk is extracted from the centrifuge separator for cream (cream) and has, in addition to other components of milk, a relatively high content of fat (usually reaches 10% of the weight of the product).

**Cream (Cream) (13):** the finished product and is available for distribution outside dairies (e.g. for human consumption or as raw material in the manufacture of chocolate, ice cream, etc.). In the same way as with other products, does not include the intermediate production intended for the production of other dairy products.

**Cream (cream) (131):** the fat content not exceeding 29%.

**Cream (cream) (132):** the fat content by 29%.

### **ACIDIFIED MILK (14)**

**Acidified milk:** consisting of dairy products with a pH between 3.8 and 5.5. Refers to yoghurts, drinking yoghurts, prepared yogurts, fermented milks heated also applies to products containing Bifidus.

**Acidified milk with additives (141):** sweetened acidified milk should be included in section 142<sup>nd</sup>.

**Acidified milk without additives (142):** includes acidified milk with added sugar or sweeteners.

### **DRINKS WITH A MILK BASE (15)**

Milk with milk base (dairy products): other liquid products containing at least 50% of dairy products, including whey. It includes chocolate milk, buttermilk with additives or flavorings, etc.

### **OTHER FRESH PRODUCTS (16)**

Refers to fresh dairy products that are not defined elsewhere, mainly on desserts with milk base (jellied dairy desserts, cream cakes and desserts with cream, dessert foam, etc.) and ice cream (and similar products) produced in the reported units. Includes canned desserts, and includes fresh produce collected from farms and marketed without processing / refining.

### **CONCENTRATED MILK (21)**

**Condensed (CONCENTRATED) milk:** a product obtained by partial elimination of water from whole, partly skimmed or skimmed milk. Also includes evaporated (heat-treated) milk (unheated) and concentrated milk with added sugar; Concentrated milk used for the production of chocolate crumb, a dry product that contains milk, sugar and cocoa paste in the following proportions:

- of milk fat: more than 6.5% (the content of the weight), but less than 11% (the weight content)
- on cocoa: more than 6.5% (content in weight), but less than 15% (content in weight) of sucrose (including invert sugar)
- more than 50% (content in weight) but not more than 60% (content in weight) of fatty substances
- dry milk: more than 17% (content in weight) but not more than 30% (content in weight),
- of water: more than 0.5% (content in weight) but less than 3.5% (content in weight).

## POWDERED DAIRY PRODUCTS (22)

**Milk products:** products obtained by elimination of water from the cream (cream), whole milk, partly skimmed, skimmed, acidified milk and buttermilk. It also includes additives to the raw material before turning to dust. It also includes milk powder manufactured in dairies and contained in powders for infants and in animal feeds.

**Cream (cream) powder (221):** milk powder with a fat content of not less than 42% by weight of the product.

**Whole milk powder (222):** milk powder with a fat content of not less than 26% and less than 42% by weight of the product.

**Partially skimmed milk powder (223):** milk powder with a fat content higher than 1.5% and less than 26% by weight of the product.

**Skim milk powder (224):** milk powder with a maximum fat content to 1.5% by weight of the product.

**Buttermilk powder (225):** product manufactured Buttermilk powder.

**Other products in powder (226):** coagulated (sour) milk and cream (cream), kefir and other fermented or sour milk or cream (cream), with or without content added sugar or other sweeteners, flavoring, fruit or cocoa. It also includes a mixture of cream (cream), dried milk, buttermilk and / or whey. Includes a powder product based on proteins.

## BUTTER (23)

**Butter (butter), total and other yellow fat dairy products (23):** include butter (butter), traditional butter (butter), recombined butter (butter), butter (butter) was obtained from whey, melted butter (butter) and butter oil, and other dairy yellow fat products, expressed in equivalents of butter (butter) milk fat content to 82% by weight of the product.

**Butter (butter) (231):** is a product with a butterfat content of not less than 80% and less than 90%, with maximum water content of 16% and non-fat dry matter content not exceeding 2%. It includes butter (butter) with a small amount of herbs, spices, aromatic substances, etc., provided that the product retains the characteristics of butter (butter).

**Traditional butter (butter) (2311):** the product obtained directly and exclusively from pasteurized cream (cream), with a fat content of not less than 80% and less than 90%, with a maximum water content of 16% and a maximum writings nonfat dry milk solids of 2%.

**Recombined butter (butter) (2312):** The product obtained from butter oil, extracts of nonfat milk solids and water, with a fat content of not less than 80% and less than 90% and a maximum water content of 16% and a maximum content of non-fat milk solids of 2%.

**Butter (butter) was obtained from whey (2313):** the product obtained from the cream (cream) obtained from whey or a mixture of these with sour cream (cream) with a fat content of not less than 80% and less than 90%, a maximum water content of 16% and the maximum content of non-fat milk solids of 2%.

Chapters 2311, 2312 and 2313 include butter (butter) with a small amount of herbs, spices, aromatic substances, etc., provided that the product retains the characteristics of butter.

#### **RENDERED BUTTER AND BUTTER OIL (232):**

**Rendered butter (butter):** melted butter (butter) with milk fat content to 85% by weight of the product. This term includes other similar dehydrated butter (Butter) that are known under various names, such as " dehydrated butter (butter)", " arid butter (butter)", " butter oil" " Fat" and " concentrated butter (butter)."

**Butter oil:** a product that can be obtained from milk, cream or butter (butter) a process of elimination and water extraction, low fat content, with a minimum fat content of 99.3% of the total weight and a maximum water content of 0.5%. In order to avoid double computing, refers only to the direct production of cream.

#### **OTHER YELLOW FAT PRODUCTS (233):**

**Cream (2331):** Cheese is a product similar to butter (butter) with a fat content lower than 80%, excluding all other fats.

**Other yellow fat products (2332):** Products of vegetable and / or animal fat, mainly solid fat emulsions in water, derived from solid and / or liquid, vegetable and / or animal fats suitable for human food with fat content of between 10% and 80%.

### **CHEESE (24)**

Cheese: It may be fresh or mature product, hard or semi-hard, obtained by coagulation of whole, skimmed or partially skimmed milk, cream, whey cream or buttermilk, singly or in combination, by the action of rennet or other suitable coagulation agents, and partial separation of whey incurred in such process. Cheese in hardness (242) subdivided **into soft cheese (2421)** in which the moisture content of lean fundamentals (MFFB) processing is generally not lower than 68%, **semi-hard cheese (2422)**, under whom MFFB processing of 62-68%, **semi-hard cheese (2423)**, under whom MFFB processing of 55-62%, a **hard cheese (2424)**, under whom MFFB processing of 47-55%, **extra hard cheese (2425)**, under whom MFFB processing less than 47% and **fresh cheese (2426)** obtained from sour milk from which most of the serum removed (squeezing or pressing). It also includes the curds (except in the form of powder) with a sugar content of fruits and added in an amount of 30% by weight of the product. Turns and cottage cheese whey (obtained from concentrated whey by adding milk or milk fat).

#### **PROCESSED CHEESE (25)**

**Processed (processed) cheese:** the product obtained by rendering, mixing, melting and emulsifying one or more types of cheese, under the influence of heat with the help of emulsifiers, with or without the addition of milk components and / or other foods.

## CASEIN AND CASEINATES (26)

**Casein:** Casein is the main protein component of milk, obtained by clotting of skim milk under the influence of acid or rennet. This chapter covers the different types of casein which differ according to the method clotting, such as acid casein and casein by rennet (paracasein).

**Caseinates:** (salts of casein) include sodium and ammonium salts known as "soluble" caseins, these salts are commonly used for the preparation of concentrated food or pharmaceutical products. Calcium caseinate is used to prepare food, or as a glue-pot, depending on the features.

## WHEY (27)

**Whey:** a by-product obtained in the process of manufacture of cheese or casein. In the liquid state, whey contains natural ingredients (on average 4.8% lactose, 0.8% protein and 0.2% fat by weight of the product) that remain when the casein and most of the fat from milk extract. Includes whey used to produce animal feed. For the liquid whey, whey used in the concentrated state, whey powder or blocks, lactose and lactalbumin should state the effective weight of the product, while total whey (27) to be expressed in its liquid equivalent, and in any case cannot be the sum of the amount above mentioned products. This group of products includes:

**Whey delivered in the liquid state (271)** is curd supplied mainly to feed livestock (quantity used as raw material for further processing must be turned off), **whey delivered in the concentrated state (272)**, **whey powder or in blocks (273)**, **lactose, or milk Sugar (274)** and **lactalbumin (275)** as one of the main ingredients of whey protein.

## OTHER PRODUCTS (28)

This section applies to dairy products (must be specified) which are not defined anywhere else, mostly related to **lactoferrin**.

It also includes products collected from farms by farm and marketed without processing / treatment (excluding packing and ripening).

### ***Level of data representativeness***

Data are representative for the level of Bosnia and Herzegovina, Federation of Bosnia and Herzegovina, Republika Srpska, and Brcko District of Bosnia and Herzegovina.

## **ORGANIZATION OF RESEARCH**

### ***The bodies for conducting the survey***

Participating parties in the preparations and conducting the annual survey on the collection all kinds of milk and production of dairy products are Agency for Statistics of Bosnia and Herzegovina, Federal Institute of Statistics of F B&H and Institute of Statistics of Republika Srpska.

Agency for Statistics of Bosnia and Herzegovina, in cooperation with entity statistic institutes, determines methodological basis, designs forms and instructions for their completion, takes care about the effective implementation of survey, controls and processes data and prepares survey results for the level of Bosnia and Herzegovina.

Data collection, control, processing and publishing data for the entity level is responsibility of the entity statistical institutes.

### ***Processing and publishing the statistics***

After the control of reporting units' coverage, the control of accuracy and the completeness of data, data coding, transferring to electric media, conducting routine and logical control, data are processed for entity level and forwarded to the Agency for Statistics of Bosnia and Herzegovina. The results from the annual survey on collected all kinds of milk and produced milk products are published in regular publications.

### ***Forms***

For conducting the annual survey on dairy production the Federal Institute of Statistics and Institute of Statistics of Republika Srpska forms are used.

The lowest level of data provided in the tables is for entity levels.

For calculating the quantity of produced milk products, the following coefficients are used:

- 1 liter of milk = 1.03 pounds of milk;
- 1 pound of butter = 22:50 gallons of milk;
- 1 pound cream =  $(26.30\% \times \text{kilograms of milk fat in cream}) / 100$ ;
- 1 pound of cheese = 12 pounds of milk;
- 1 kg of sheep milk cheese = 6 pounds of sheep milk;
- 1 pound of goat cheese = 12 pounds of goat's milk;
- 1 pound ricotta (ricotta cheese) = 8 pounds of milk;
- 1 pound of other dairy products (yogurt, acidophilus milk) = 1 kilogram of milk;