EDA, the world of milk and EU Dairy sector...

Frequently Asked Questions
Contents

This publication provides general information, as well as answers to frequently asked questions, about the European dairy sector, the European Dairy Association and its vital work.

EDA - the European Dairy Association ........................................................................................................3
Who we are and what we do as European Dairy Association? .................................................................3
How is EDA organised? ................................................................................................................................3
EDA and the European Commission ..........................................................................................................3
EDA and the European Parliament .............................................................................................................4
What are the other main associations that represent the dairy industry? ..................................................4
The world of Milk .........................................................................................................................................5
What is milk? ................................................................................................................................................5
How is milk generated? ................................................................................................................................6
What is the difference between pasteurised and UHT milk? .....................................................................6
How long can milk be preserved? .............................................................................................................6
Do all milks and dairy products have the same fat content? ......................................................................7
Why is milk white? .....................................................................................................................................7
What is casein and what is its role in dairy production? ............................................................................7
What is whey powder? ................................................................................................................................8
What is processed cheese? ........................................................................................................................8
What are the main technologies used in the dairy industry? ..................................................................8
How is cream, butter or cheese manufactured? ..........................................................................................9
Why do some cheeses have holes? ............................................................................................................9
What is an organic dairy product? ............................................................................................................10
The importance of Dairy in nutrition and health ......................................................................................11
What are the health benefits of dairy products? .......................................................................................11
What are natural and industrial TFAs? .......................................................................................................12
Is the amount of natural TFAs we eat of any health concern? ................................................................12
Why are dairy products manufactured with raw milk considered a food safety issue? .........................13
Why do we talk about lactose intolerance? ...............................................................................................13
Is there any official programme to promote ‘healthy eating’ among children? .....................................14
What is the difference between dairy and dairy alternatives? .................................................................14
Dairy: an actor for sustainability.................................................................................................................. 15
How can the dairy sector be an actor for circular economy? ........................................................................ 15
What is the climate footprint of the dairy sector? ............................................................................................. 15
Why do we need dairy cows to protect our environment? ............................................................................ 16
What is carbon sequestration? ....................................................................................................................... 16
What is the Dairy Product Environmental Footprint about? ......................................................................... 17
What are the Global Dairy Agenda and the Dairy Sustainability Framework? ................................................ 18
What is the European Emission Trading Scheme? .......................................................................................... 18
Which “CAP and Trade” scheme covers the dairy agriculture emissions? ....................................................... 19
What are the National Emission Ceilings (NEC) Directive and the Industrial Emission Directive (IED) and how do they affect the dairy sector? ................................................................................ 19
How does the dairy industry handle its water resources? .............................................................................. 19
Is Dairy involved in sustainable packaging? .................................................................................................. 20
What are the commitments of Dairy regarding food waste? ........................................................................ 20
How can the dairy industry work towards the protection of biodiversity? .................................................. 20
Can a dairy diet be compatible with future sustainability and growing population issues? ................................ 21
The dairy economy in the European Union .................................................................................................... 21
Why is dairy so engrained in European cultures? .......................................................................................... 22
Why has dairy production largely remained in the EU? ............................................................................... 22
How does the dairy sector contribute to the whole EU economy? ............................................................... 22
What are the top export destinations for EU dairy products? ...................................................................... 24
What is the impact of bilateral trade agreements on the EU dairy sector? .................................................. 24
What are the consequences of Brexit on the EU dairy sector? ................................................................... 25
European Dairy Policies ................................................................................................................................ 26
What is the Common Agricultural Policy (CAP)? ......................................................................................... 26
Where does Dairy fit in the CAP expenditures? ............................................................................................ 26
What was the dairy quota system? ................................................................................................................ 27
How did the milk quota system evolve? ......................................................................................................... 27
What are the current dairy policy instruments of the European Commission? ........................................ 27
Dairy Labelling: trademarks and Geographical Indications .......................................................................... 28
What is a Geographical Indication? ............................................................................................................. 28
What are the specificities of Geographical Indications? .............................................................................. 28
What is the difference between trademarks and Geographical Indications? ........................................... 29
EDA - the European Dairy Association

Who we are and what we do as European Dairy Association?

The European Dairy Association (EDA) is the acknowledged voice of the European milk processing industry in Brussels, representing the interests of cooperative and private dairies at the EU level. Furthermore, we provide a forum for high level debates on the future of the European “lactosphere”, as well as in-depth analysis of today’s dairy related topics that are relevant to the European agenda.

EDA centers its efforts around 4 pillars. We have seen that the success of our EU dairy industry is based on the European project and the work carried out to build a strong Single Market, a robust EU Trade strategy, our Common Agricultural Policy and an ambitious agenda for sustainable development.

How is EDA organised?

Our members are the national dairy associations. Our direct members come from all over Europe, but EDA also works closely with partner members like the Georgian Dairy Association.

EDA is led by a Board of directors, at executive level of a dairy company and representing one national dairy association. The leadership of the Board is embodied by our EDA President, elected every two years by the EDA Board and backed by a vote of the General Assembly.

The work of EDA is carried out by two committees: the Trade & Economic Committee (TEC) and the Food, Environment & Health Policies Committee (FEP), both including working groups and task forces overseeing specific sectors or topics.

EDA and the European Commission

EDA tries to keep in close contact with the European Commission at all levels to make sure our ideas, concerns and interests are known, when decisions are taken. Our role is to provide relevant information to
the EU institutions in full transparency. Since 2009, we have subscribed to the EU code of conduct and are registered in the “Transparency Register of the European Union” (registration n° 42967152383-63).

EDA participates in advisory committees within various DGs like the Directorate General for Agriculture and Rural Development (DG AGRI), the Directorate General for Environment (ENVI) as well as the DG for Health and Food Safety (DG SANTE).

As EDA, we are also member of the Economic Board of the EU’s Milk Market Observatory (MMO) and we are a member of the Market Access Advisory Committee (MAAC) and of the Sanitary and Phytosanitary Market Access Working Group (SPS MAWG) within DG Trade.

**EDA and the European Parliament**

We maintain close relations with members of the European Parliament, the direct representation of the citizens at Union level. Our focus is on the relevant Committees, like the Committee for Agriculture and Rural Development (COMAGRI), the Committee for International Trade (COMINTA), and the Committee for Environment, Public Health and Food Safety (COMENVI).

One of our contact platforms with the European Parliament is our “Members of the European Parliament (MEP) Assistant Roundtable”. These meetings offer open discussions between the MEPs’ staff and EDA/dairy representatives on relevant dairy issues.

What are the other main associations that represent the dairy industry?

Alongside EDA, there are other associations representing the dairy sector in Brussels. EWPA (EDA’s sister organisation) represents the whey processors, and Assifonte embodies the processed cheese industry. Together, EDA, EWPA and Assifonte share the same staff and secretariat. The three organisations regularly work jointly on relevant issues.

EDA is also a member of a European umbrella organisation, FoodDrinkEurope (FDE), that incorporates all European food and drink industries. Internationally, EDA is represented by the International Dairy Food Association (IDFA) and the International Dairy Federation (IDF).
The world of Milk

What is milk?

Milk is a natural white liquid from animal origin, produced by the mammary glands of mammals. The exact composition of raw milk varies from species to species, but raw milk always contains protein, fat, lactose (milk sugar) as well as several vitamins and minerals (e.g. calcium). The fat content of consumption milk varies depending on the type of milk (e.g. whole, semi-skimmed, skimmed).

Defined by the EU law, “milk means exclusively the normal mammary secretion obtained from one or more milking without either addition thereto or extraction therefrom”. Therefore, under EU law, the term “milk” may not be used for any product other than dairy products.

At global level, milk is defined in the Codex of General Standards for the Use of Dairy Terms as the normal mammary secretion of milking animals obtained from one or more milking without either addition to it or extraction from it, intended for consumption as liquid milk or for further processing.

Milk is the primary ingredient for all dairy products such as cheeses, yoghurts, butter, cream, and others. All these terms are exclusively reserved for dairy products. It is illegal in the EU to use protected dairy terms to name or describe plant-based drinks or foods. The EU law protects the EU consumers from being confused and misled and acknowledges the unique nutritional qualities that naturally characterise milk and dairy.

What the EU law says...

The EU Legislation (especially EU Regulation No 1308/2013) guarantees the appropriate use of the definition of milk. Read more about the protection of dairy terms in our Position Paper.

Did you know?

In total, there are more than 100,000 elements in milk, some of which may have functional properties but also provide nutritional and health benefits like lactoferrin, oligosaccharides, or rumenic acid.

100% natural!

87% water
5% sugar lactose
4% milk fat
3% milk proteins
3% casein
0.6% whey

...and plenty of minerals such as calcium, or potassium!
How is milk generated?

Milk is synthesised by the cow following the vegetation of grass and plants, in a **natural cyclical process stimulated by the sun**. Vegetation grows by using the energy from the sun, carbon dioxide, water, and some elements from the earth. As this happens, grass and plants release oxygen into the atmosphere: an essential gas used by humans and animals to breathe.

Grass is not a suitable feed for consumption by new-born calves and cannot be digested by humans. The cow therefore digests, modifies, and filters the nutrients from grass and by that transforms a non-edible material to a highly nutritious food.

What is the difference between pasteurised and UHT milk?

Pasteurisation processes use high temperatures to **reduce the number of microorganisms in raw milk**. It allows producers to increase the preservation lifespan and overall safety of the milk when collected. Ultra-High-Temperature (UHT) milk is treated with a **higher temperature than in the pasteurization process**. This increases the shelf life drastically and destroys more microorganisms, which can have an impact on the health benefits, as well as the taste of milk.

How long can milk be preserved?

Raw milk can only be preserved for 72 hours. After milk is pasteurised and correctly cooled, its shelf life generally varies from 5 to 15 days. With UHT treatment, milk can be preserved **up to 6 months without refrigeration**. Check the date on the packaging!

Both pasteurised and UHT milk should be stored appropriately in a cool place and consumed shortly after opening. Sunlight is detrimental to keeping milk fresh and nutritious: a reason why milk is usually packaged in cartons or opaque plastic containers.
Do all milks and dairy products have the same fat content?

The homogenisation of raw milk determines the fat content and thus its classification as either whole or skimmed. Milk sold in stores is usually available as skimmed (0.3%), semi-skimmed (1.5%) and whole (3.5%). However, you can also find reduced-fat milk with 2% and low-fat milk with 1%. Yoghurt and yoghurt drinks can be made from all types of milk and are therefore also available in different fat levels.

Consequently, and depending on the type of milk that is used, dairy products have a broad spectre of possible fat levels. See also our EDA Factsheet on Milk Fat.

Did you know?

The casein proteins in suspension are named micelles.

The light diffusion of the casein and fat globules is named diffraction.

Why is milk white?

The pure white colour of the milk comes from proteins. You find them in two forms in milk: insoluble/stable (casein) and soluble/unstable (whey). Stable proteins, in the shape of microscopic spheres, stay uniformly in suspension within the milk, repelling each other because of their negative electric charge. If they are colourless, they diffuse the light and, with fat globules, create a visual illusion of white milk. So, pure white milk is the proof of a high rate of protein.

What is casein and what is its role in dairy production?

Casein is the major protein in milk, representing 80% of the total protein components. It is particularly known for its benefits on healthy growth and development among children. It is also a well-known muscle-builder for adults given its essential amino acids.

Casein can be easily separated and extracted from the other milk components. Consequently, it also became a market opportunity for the European Union. It is used to make several added-value products and constitutes the main components to create curds, raw materials for the cheese transforming process.

A bit of history...

The manufacture of casein goes back to over 3,000 years B.C., when Bedouins carried animal milk in bags on their trips through the desert.

The heat in the desert caused acidification and coagulation in milk, resulting in an acid liquid (whey) on top of a milk curd.
**What is whey powder?**

Whey is one of the two proteins contained in cow’s milk. It is the liquid remaining after the production of cheese or the removal of fat and casein from milk. Whey is a rich source of all essential amino acids needed by the body on a daily basis. In its purest form, it contains little to no fat, or lactose. Thanks to its beneficial properties, whey is used in many high-quality foods! Learn more about the different forms, uses and benefits of whey protein on [Wheyforliving](http://www.wheyforliving.com).

**What is processed cheese?**

Processed cheese is made by melting and emulsifying cheese and other dairy ingredients. Additional ingredients may be added, like herbs or spices. It is produced with natural melted cheese, selected for its flavour, fat and moisture content. Its long shelf life, taste and cooking qualities make processed cheese a unique, versatile and convenient staple for families and professional kitchens. See the [Assifonte information paper](http://www.assifonte.com).

**What are the main technologies used in the dairy industry?**

As described by the [CNIEL](http://www.cniel.org), milk processing does not require any chemical treatment. Only physical processes and biochemical reactions are used. Among the main ones:

- **Thermal treatments** mainly ensure the sanitary quality of the product and determine its durability, technological and textural characteristics.
- **Skimming** is a manual or mechanical operation separating the cream (fat globules in suspension) from the milk. It can then be used to produce butter or cream for consumption.
- **Homogenisation** stabilises milk fat and prevents the cream from rising even after storing milk for several days.
- **Drying** turns milk or its compounds into powder, hereby optimizing its shelf life, storage, and transportation.
- **Filtration** filters dairy liquids through a controlled porosity membrane. They are different techniques differ in pore size and applied air pressure.
- **Fermentation** is a biochemical reaction carried out by microbial enzymes. A common technique is lactic fermentation, used in the manufacturing of ripened cheese or fermented milk.
• **Standardisation** brings milk at a given fat or protein concentration. These adjustments compensate natural composition’s variation inherent to bovine race, cow’s feeding and seasons.

• **Coagulation** turns milk into curd, and is essential in fermented milk production, cheeses and certain dairy desserts.

---

**How is cream, butter or cheese manufactured?**

Cream is a concentrate of fat globules contained in whole milk, obtained by skimming milk. Cream can then be thickened or flavoured by a ripening operation (physical and/or biological). It can also be homogenised and heat-treated with UHT for long-term preservation (UHT cream).

Traditional butter manufacturing relies on a step-by-step concentration of milk fat. The switch from milk to a cream containing 40% to 50% of fat, maturation of the cream and mechanical action, with a churn or a butter making machine. Grains are separated from the non-fat liquid portion of milk (buttermilk) and then washed and kneaded to form a compact mass called “butter.”

Cheese making involves coagulating milk. This transition from the liquid to the solid state (gel) is done by acidification and under the action of coagulants. Cheese making starts with milk preparation, i.e. optional heat treatment and ripening of milk. The next steps are coagulation, slicing, draining and moulding followed or not by salting and refining. Cheeses are grouped into several technological categories like cottage cheeses, soft cheeses with a flowery rind, soft curd cheeses, marbled cheeses, uncooked pressed and cooked pressed cheeses, or processed cheese. The sensory quality of cheeses varies according to the type of milk used and manufacturing technology.

---

**Why do some cheeses have holes?**

In the early 19th century, scientists found out that these holes come from fermentation and some of the bacteria used in cheese production. Gas production in some cheeses like Swiss-style cheese is typical. In the late stage of cheese production, the *propionibacteria* consumes the lactic acid and releases acetate, propionic acid and carbon dioxide (CO2). While escaping, the CO2 forms bubbles and develop holes, also known as “eyes”.

This particular fermentation can either occur spontaneously or with a culture of selected *Propionibacterium*. A spontaneous fermentation leads to irregular eye formation. The number and size of eyes vary, then cracks or splits are quite common. On the contrary, the use of a culture of selected *Propionibacterium* leads to a more regular eye formation, as a result of controlled propionic acid fermentation.
Eye formation is an important quality parameter for eye-forming (semi-) hard cheeses, such as Emmental, Gouda, or Maasdam. Various techniques detecting when eyes form and when they start overgrowing are used to detect internal defects and assess the maturation stage of cheese.

**What is an organic dairy product?**

To be considered as organic, dairy products have to respect the main conditions of the [Common European Organic Scheme](https://www.ecofriendly.org/): limited use of pesticide, no use of GM feed, mandatory grazing and limited use of additives.

Organic farms are often considered for their high results in term of biodiversity in grazing lands. To achieve these additional product features, a premium price is required. Today, the market for organic dairy products in Europe is relatively small (4% of the EU dairy production in 2018) but with a strong growth and growth potential both within and outside Europe.

**Fun fact!**

In the cheese industry holes in cheeses are referred to as “eyes”. Any cheese without holes is therefore known as “blind”.

In the cheese industry holes in cheeses are referred to as “eyes”. Any cheese without holes is therefore known as “blind”.
The importance of Dairy in nutrition and health

What are the health benefits of dairy products?

Dairy foods provide many essential nutrients which contribute to good health at all stages of life. High quality protein and calcium are needed in sufficient amounts for normal growth and development of bones in children and adolescents and for the maintenance of bones later in life. Calcium is also needed for the maintenance of normal teeth, and protein also contribute to the maintenance of muscle mass.

During pregnancy and breast-feeding, many of the nutrients such as protein, phosphorous, magnesium, iodine, vitamin B12, vitamin B2 are required in larger amounts. Scientific studies also show that as part of a healthy diet, dairy is associated with many health effects, including body weight management and composition, lower blood pressure and reduced risk of type 2 diabetes. A cardio-protective effect of dairy products has been observed in some studies.
Several studies have found no negative links between intake of saturated fat in dairy foods and cardiovascular disease and diabetes. Cheese consumption has shown no adverse effects on cholesterol levels. The explanation for this may lie in the complex composition of milk and dairy foods which, in addition to saturated fat, contain other nutrients and bioactive components such as calcium, potassium and bioactive peptides.

What are natural and industrial TFAs?

Trans fatty acids (TFAs) are unsaturated fatty acids which can be found in food, either as industrial TFAs in some processed vegetable oils or as naturally occurring TFAs in meat and dairy.

Natural TFAs are also known as “ruminant TFAs” because they are naturally produced in the gut (rumen) of cows. Therefore, small amounts of ruminant TFAs can be found in animal products such as milk and meat. On average, milk fat is composed of 65-70% saturated fatty acids and 30-35% unsaturated fatty acids.

Industrial TFAs are formed during the hardening process of vegetable oils (partial hydrogenation at high temperatures) used to increase shelf-life of some foods.

Industrial TFAs are mainly found in margarines, spreads, processed baked goods, fast foods and snack foods. Partially hydrogenated fat may contain up to 60% industrial TFA.

What the EU law says...

The Commission Regulation (EU) 2019/649 on trans-fat, other than trans-fat naturally occurring animal-origin, limits the level of industrial fatty acids at the level of a maximum of 2%. Ruminant or natural TFAs are excluded from the scope of this Regulation as they are an integral and natural part of milk or meat fat.

Is the amount of natural TFAs we eat of any health concern?

No, it is not since levels of natural TFAs found in dairy are low. Science shows that consumption of ruminant TFAs from natural sources such as dairy, meat and butter is below 2 g/day in the average European diet.

Contribution of ruminant TFAs to the overall energy intake is therefore minimal and below the maximum level set by WHO for total TFA intake of 1% of energy. The amount of natural TFA consumed in our usual diet is therefore not of any health concern.

Did you know?

Natural TFAs represent only 4-6% of total milk fat, meaning there is less than 0.1 g of natural TFA in 100 ml of full fat milk.

For more detailed information on TFAs in milk, check out our EDA Q&A on trans fatty acids.
Why are dairy products manufactured with raw milk considered a food safety issue?

According to the European Food Safety Authority, the consumption of raw milk can be associated with certain health risks. However, EU hygiene legislation applies stringent requirements on raw milk products, requiring food businesses to exercise strict controls on the hygienic safety of these raw milk products and giving the consumers the necessary tools to make informed choices. The dairy sector is particularly involved in guaranteeing high standards of food safety. The main dairy transforming processes decrease bacterial load or control bacterial growth. A lot more information can be our EDA Fact sheet on food safety in the dairy chain and position paper on raw milk.

Why do we talk about lactose intolerance?

Lactose is a sugar that is naturally present in milk (4.7 g/100 ml in cow’s milk). Ingested lactose is broken down by lactase, a digestive enzyme, into its two fragments: glucose and galactose which are rapidly absorbed within the small intestine.

Lactose intolerance may occur when the activity of the enzyme lactase is not enough to digest the consumed lactose. When the undigested lactose gets in the colon (gut), it is fermented by intestinal bacteria. This fermentation process may induce gastrointestinal symptoms of lactose intolerance, such as abdominal pain, bloating, diarrhoea, and flatulence. However, lactose maldigestion does not always lead to symptoms of lactose intolerance.

EFSA highlights that milk is such an important component of the diet that before recommending a “low-lactose” diet with the avoidance of milk, lactose intolerance should be formally confirmed by one of the recognised tests. (e.g. hydrogen breath test, lactose tolerance test).

Lactose tolerance varies widely amongst individuals. Due to this individual variability, setting a single threshold of lactose for all lactose intolerant people is not possible.

**Did you know?**

A vast majority of people with lactose maldigestion tolerate up to 12 g. of lactose in a single dose = 1 large cup of milk (240 ml), with minor or even no symptom(s). Higher doses may even be tolerated if distributed throughout the day. For more information, see our EDA Q&A on Lactose intolerance.
Is there any official programme to promote ‘healthy eating’ among children?

Consumption of milk, as well as fresh fruit and vegetables in the European Union does not meet international or national nutritional recommendations. Unhealthy diets, together with low physical activity, result in rising obesity rates.

In order to help children follow a healthy diet and lifestyle, the EU Commission introduced a EU School Scheme. The EU School Milk Scheme dates back to 1977. The national budget allocations for the 2019/2020 school year was €105 million for milk and other dairy products (while €145 million were set aside for fruit and vegetables). The distribution programme is complemented by educational measures that teach children about agriculture and promote healthy eating.

Did you know?
The last evaluation shows that the School Milk programme reached over 20 million children across the EU during the school year 2017/2018.

At global level, the World School Milk Day was established in 2000 to raise awareness about school milk programmes. It is celebrated each year on the last Wednesday in September to give more visibility to dairy products in schools all over the world, with various activities focusing on the importance of milk for children.

What is the difference between dairy and dairy alternatives?

Plant-based drinks are of plant origin, whereas milk is of animal origin. Plant-based drinks are highly processed, with many ingredients added whereas plain milk is minimally processed (e.g. fat standardisation, homogenisation, thermal treatment) and has no added ingredients.

Milk is naturally nutrient rich. Plant-based drinks are usually enriched with vitamins and minerals to mimic the natural nutrient content of milk. For taste reasons, most plant-based drinks are sweetened and flavoured to make them more appealing. Milk, however, can be consumed directly as its taste is perfectly suited for direct consumption. Plant based drinks compete with milk on the same market even though plant-based drinks and milk are completely different products, both from a technological and nutritional point of view.
Dairy: an actor for sustainability

How can the dairy sector be an actor for circular economy?

The logic of a circular economy is based on an appropriate use of natural raw resources to avoid their increasing scarcity and the promotion of actions like recycling, reuses and transformations shaping a natural virtuous circle. Dairy has indeed a long history with circular economy and is active in a wide field of topics to continuously improve its circular performance, including packaging and recycling, as well as by-products valorisation and water re-use.

These are only few examples of the dairy commitment towards Circular Economy. Nowadays, the dairy sector is one of the main representatives of this cyclical approach and the search for innovative solutions is continuously on the agenda. To learn more about the EDA approach towards circular economy, take a look at our position on the new EU Circular Economy Action Plan.

What is the climate footprint of the dairy sector?

The dairy sector represents between 2% to 4% of the global emissions of greenhouse gases (GHG) per year, according to the FAO report on Greenhouse Gas Emissions from the Dairy Sector. The carbon footprint of European dairy production has significantly decreased since 1990 according to the Annual European Union greenhouse gas inventory 1990–2018.
The carbon footprint per produced unit of milk in Europe is already among the lowest in the world and the sector is fully committed to further decrease its carbon intensity and contribute to the achievement of the EU GHG emissions reduction goals. Many dairy companies have already signed up for the commitment on carbon neutral dairy chain by 2035 and 2050. They also have emission reduction targets covering emissions from dairy processing, from the upstream phase and from the downstream phase of the dairy chain. Today, you can also find examples of carbon-neutral certified companies.

Dairy cows also have a positive environmental impact on landscapes, enhancing grass renewal and preservation of the biodiversity.

Behind the isolated figures of dairy GHG emissions, one needs to take a holistic approach and consider the dairy sector under a wider environmental assessment to better understand its real climate footprint.

**Why do we need dairy cows to protect our environment?**

Dairy cows are one of the pillars of the environmental chain. The livestock farming has plenty environmental positive externalities. Farming different species of dairy livestock helps to preserve animal biodiversity and revitalises landscapes. At the same time, efficient grazing of cow herds not only supports plant growth, it also contributes to the restoration of the grasslands, plant and soil microorganism biodiversity, carbon sequestration in soils and land quality. Permanent grassland of pastureland already keeps carbon in places where nothing else could grow while providing essential nutrients. Read more in our EDA paper: [The Dairy Sector and the Green Deal](#).

**Did you know?**

Animal grazing converts inedible material into valuable nutrition for humans. It keeps the landscape integral as many areas would not be green anymore without the constant impact of cows biting and trampling down on the grass!

**What is carbon sequestration?**

Carbon sequestration is the phenomenon which compensates a part of livestock’s GHG emissions. CO2 is removed from the atmosphere and absorbed by grassland and pastureland, acting like natural carbon sinks. It can offset a significant share of dairy livestock emissions. Dairy producers can help reduce the greenhouse gas impact of their operations through efficient farm management which promotes soil carbon absorption. Many existing projects at dairy farm level in Europe aim at enhancing carbon sequestration by developing reliable calculation methods and implementing carbon farming practices.
EDA also works with the European Commission on exchanging best practices and contributing to the analysis and mapping of carbon farming approaches across Europe.

What is the Dairy Product Environmental Footprint about?

The Dairy Product Environmental Footprint (Dairy PEF) has been driven by the European Dairy Association (EDA) as a major project to better identify the most relevant environmental impacts of different dairy products in examining a broad range of 17 environmental criteria, like water and land use. It covers the full life cycle of dairy products, from feeding the animal to washing your yoghurt spoon. The Dairy PEF has been a cooperative effort to develop a harmonised methodology using a simple and workable tool to measure environmental performances of dairy products.

The methodology was officially approved by the EU Commission, members states and NGOs in 2018 as the reference methodology in the dairy sector. It goes far beyond GHG emissions and covers basically the ‘full’ environmental footprint. More information about the Dairy PEF is available in our EDA factsheet, or on DG ENVI’s Green Products Initiative webpage.

A promising project...

The success of the Dairy PEF has been recognised by external evaluators and by the vote of the European Commission and the Member States in April 2018, that defined the Dairy PEF as the reference methodology in the dairy sector.
What are the Global Dairy Agenda and the Dairy Sustainability Framework?

In September 2009, seven organisations representing the dairy sector, like EDA or the International Dairy Federation (IDF), formed the Global Dairy Agenda for Action (GDAA) to lay the foundation of positive dairy processing contributions towards the reduction of global GHG emissions.

Each year, progress and achievements are carried out and monitored through a derived program of the GDAA: the Dairy Sustainability Framework. The latter offers a platform for dairy companies to brainstorm around the best solutions in terms of dairy sustainability. It is an opportunity for dairy companies to align key sustainability issues in a coherent way, connect existing activities and reveal opportunities.

Did you know?


For more information on the Dairy Sustainability Framework, check out the DSF Annual report 2015-2016 or the DSF informational videos.

What is the European Emission Trading Scheme?

The European Emission Trading System (ETS) covers medium and large installations in the industry. The other sectors are covered by the Effort Sharing Regulation (ESR) and by the Land Use, Land Use Change and Forestry (LULUCF) Regulation.

The European Emission Trading System (ETS) is the EU policy cornerstone tackling climate change. It works on the “CAP and Trade” principle: a GHG emissions cap distributed between the European companies each year and a trade between these companies depending on their emissions results. The objectives are first to reduce along the years the amount of allowances to create a permanent incentive to decrease GHG emissions, and then to reward companies surpassing the expectations and able to sell their non-used allowances.

The Effort Sharing Regulation (ESR) aims to ensure that the EU reaches the target of GHG reduction by 30% in 2030, compared to 2005 levels, in sectors such as transport, buildings, waste and agriculture, which are not covered by the ETS.

The LULUCF Regulation establishes a framework for the inclusion of GHG emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework. Each EU Member State is committed to ensure that accounted emissions from land use are entirely compensated by an equivalent removal of CO2 from the atmosphere.
Which “CAP and Trade” scheme covers the dairy agriculture emissions?

In the current ETS framework, some energy intensive dairy installations fall under the scope of the ETS Regulation. Some dairy products categories (dairy powders) are given a specific status within the scheme, as they are recognised to be at risk of "carbon leakage", meaning the production could easily be shifted to non-UE countries if the additional burden due to ETS allowances would render the production less competitive in the EU. The related installations receive a higher number of free emissions allowances to cope with the risk of carbon leakage. Other non-CO2 emissions of the agricultural sector are covered by the ESR and LULUCF Regulations.

What are the National Emission Ceilings (NEC) Directive and the Industrial Emission Directive (IED) and how do they affect the dairy sector?

The Directive 2001/81/EC on National Emission Ceilings sets up limits for each Member State on four pollutants (sulphur dioxide, nitrogen oxides, volatile organic compounds and ammonia) with flexibility for the national implementing measures. The negotiations of national emissions ceilings in the EU were followed closely by EDA.

The Industrial Emission Directive (IED) aims to reduce harmful industrial emissions across the EU, in particular through better application of Best Available Techniques (BAT). Best Available Technique Reference Documents (BREFs) are industrial benchmarks for different types of emissions from manufacturing sites that were developed by the EU authorities. Once completed, the benchmarks of industrial equipment and emissions are set to become mandatory standards within the EU.

The dairy industry and EDA follow these processes very closely as they could have a negative impact on the dairy industry if they do not reflect the specificities of the dairy reality on the ground. We assisted the EU Commission’s Joint Research Centre (JRC) in their work, providing sectorial information and industry expertise to better clarify the reality and needs of the dairy industry. The Best Available Techniques conclusions on the ‘Food, Drink and Milk Industry’ were published in December 2019. The new rules will be used for environmental permits and other regional evaluations, but also lead to EU rules from around 2022 on.

How does the dairy industry handle its water resources?

Improvements in water use efficiency and recycling measures have clearly decreased the aquatic impact of dairy. Water is used in dairy plants for heating, cooling, washing, and cleaning, always prioritising the highest hygienic standards and maximum safety in all sectors of production.
Dairy can improve its sustainability through water reuse in the dairy process. Innovative water treatment technologies such as reverse osmosis allow dairy sites to recycle wastewater for reuse across the dairy chain from cleaning the filling lines to pasteurising the milk. Significant steps are also made to improve the quality of wastewater, reducing the impact on water basins. For more information, check out our factsheets on the importance of water and on water reuse in the dairy sector.

Is Dairy involved in sustainable packaging?

The dairy industry is involved in many initiatives to further streamline the environmental impact of its packaging and it strives to find improved solutions for collection and recycling. Most dairy companies have targets on reusability, recyclability, composability, as well as recycled content, sorting and collection, design, and carbon footprint of packaging.

The main function of packaging is to deliver products to consumers in optimal condition. Good packaging must be adequate for the specific characteristics of a product at each stage of its life cycle while minimising the economic and environmental impacts of both the product and its package.

For more information, check out our EDA factsheets on the choice of packaging and the high legal and safety requirements for packaging in the dairy industry.

What are the commitments of Dairy regarding food waste?

The dairy industry is seriously committed to measure, prevent, and reduce food waste along the chain. In this context, adequate packaging that safeguards the products from external influences plays a key role in avoiding food waste.

In parallel, a vast range of actions and initiatives seek to improve production efficiency, achieve zero waste disposal in manufacturing sites, increase the use of previously discarded dairy by-products, increase food donation, or raise awareness at consumer level. Read more in our EDA factsheet.

How can the dairy industry work towards the protection of biodiversity?

The dairy sector manages lands and allows biodiversity to prosper. The sector significantly contributes to halting and reversing land degradation, a keystone in safeguarding cultural landscapes. For instance, the
The dairy sector constantly works on reducing ammonia emissions and nitrate leaching, increasing the amount of protein sourced from local land or sustainable soy sourcing. The sector also focuses on soil management and renewal at farm level.

Moreover, many dairy companies are committed to eradicate deforestation from their supply chains. The European dairy sector sources the great majority of the protein (70%) from roughage which is almost entirely (95%) grown on farm. This represents a key factor when it comes to environmental and economic sustainability, as well as circularity and efficient use of resources. Check out our EDA paper *The Dairy Sector and the Green Deal* for information.

Can a dairy diet be compatible with future sustainability and growing population issues?

A dairy diet seems particularly appropriate to ensure future food security for a growing world population. In parallel, it is ready to face environmental issues by drawing up a blueprint for sustainable agricultural production.

The dairy sector could be the European white gold in the future years, thanks to its increasing yield and production efficiency (more milk deliveries with lesser cattle) as well as its appropriate and sustainable use of land.

Dairy products also naturally provide many essential vitamins and minerals as well as high-quality protein: a glass of milk provides 21% of the daily protein requirements for a 5-year-old child.

The scientific study *“Carrying capacity of U.S. agricultural land: Ten diet scenarios”* by Peters et al. (2016) shows that between the 10 diet scenarios studied, the ovo-lacto-vegetarian diet and lacto-vegetarian diet performed best overall than other healthy diet, especially compared to vegan diet.

Did you know?

Scientific studies also showed a positive correlation between per capita income increases and dairy products consumption:

- Anita Regmi, *Cross-Country Analysis of Food Consumption Patterns*
- Cranfield et al., *Changes in the structure of global food demand*
The dairy economy in the European Union

Why is dairy so engrained in European cultures?

The first signs of human dairy consumption were discovered in Central and Northern Europe dating back to approximately 7,000 years ago. This makes it the first known location where humans understood the benefits of animal milk. With the Romans, Germanic and Celtic civilizations further developing dairy farming and becoming heavily reliant on its produce, they have left a deeply engrained dairy legacy in Europe.

Moreover, Europe is known to be the cradle of cheese-making, as milk processing was also first developed on the continent. Today, Europe is still the world leader in cheese production.

All these historical developments have helped rooting dairy farming, as well as milk and its many uses, in all European cultures. Since these days, the region is still the largest consumer of milk per capita.

Why has dairy production largely remained in the EU?

The European regions offer uniquely varied landscapes providing excellent conditions for dairy farming. Moreover, there are more than 300 registered cheeses and dairy products requiring locally sourced milk that ensure continued demand. Finally, the European single market, in combination with the Common Agricultural Policy (CAP), provides solid foundations for a strong and flourishing dairy sector.

How does the dairy sector contribute to the whole EU economy?

With about 12,000 milk processing sites, 300,000 industry employees and 700,000 dairy farms, the European dairy sector not only represents the backbone of rural Europe but is also a valued addition to the EU positive trade balance with contributions exceeding €10 billion.
The European dairy sector is also globally recognised as a leading innovator. Farmers and dairy companies, in partnership with national and European policymakers, have been frontrunners in sustainability. This makes the European dairy expertise valuable and competitive in an increasingly demanding world.

Did you know?

5 out of the top 10 global dairy companies are European: Nestlé, Lactalis, Danone, FrieslandCampina and Arla Foods.
What are the top export destinations for EU dairy products?

The diversified export portfolio of EU dairy companies not only ensures that we can provide all regions of the world with our unique and healthy products. With over 45,000 jobs directly linked to these exports, it also secures a resilient and sustainable future for our sector. In 2018, the European milk processing industry contributed for more than €10 billion to the overall EU trade balance.

The top 15 export destinations for EU Dairy are:

1. China
2. United States
3. Mexico
4. Japan
5. South Korea
6. Algeria
7. Saudi Arabia
8. Nigeria
9. Cuba
10. Indonesia
11. Malaysia
12. Australia
13. Chile
14. Turkey
15. Switzerland

What is the impact of bilateral trade agreements on the EU dairy sector?

Since the release of the so-called “Hogan Package” in September 2015, the European Union set up a “diplomatic offensive” to open new markets and start new free trade agreements. This could be extremely beneficial for the European agricultural sector and especially for the European dairy sector. The various missions to third countries to promote EU agriculture have opened new dairy markets and strengthened the leadership of the European Union in dairy exports. More than a dozen country is currently negotiating free trade agreements (FTA) with the EU. The ASEAN countries are particularly interesting for our sector. A complete overview of the bilateral trade opportunities and FTA negotiations is available in the EDA Annual Report 2019/2020.

“Growing world demand for dairy is a unique opportunity for EU Dairy. We strongly support the ‘diplomatic offensive’ of EU Commissioner Phil Hogan to open up new markets for our products.”

Wim Koosterboer
Corporate Manager Trade & Dairy Affairs at FrieslandCampina, Chair of the EDA Trade & Economics Committee
What are the consequences of Brexit on the EU dairy sector?

On 31 January 2020, the United Kingdom left the European Union. Brexit now translates into a period of negotiations to define the future relationship between the EU and the UK. These negotiations are supposed to end before January 2021.

If the UK leaves the EU Single Market and Customs Union without any trade agreement or alternative solution to keep goods and services flowing, this would be detrimental to both the UK and EU27 dairy sector. EDA wants the trading relationship between the UK and the EU to remain as close as possible to the status quo. Negotiations towards a most comprehensive free trade agreement should be prioritised to facilitate a free flow of goods.

Since 2016, the UK has been running a trade deficit with the EU27 for most dairy products, especially buttermilk, yoghurt, cheese and curd. The only exception is a milk and cream surplus, primarily driven by the export of raw milk from Northern Ireland to the Republic of Ireland.

The Future EU-UK Dairy Framework

EDA published its Dairy Framework presenting its position on the future EU-UK relations and trade negotiations, together with an EDA focus on Rules of Origin, the criteria used within the World Trade Organisation (WTO) to define where a product was made.

After the transition period following Brexit, the UK will become a third country for the EU in terms of trade relations and thus, the mentioned rules of origin will have to be applied for the new agreement between the UK and the EU, whether this new relation is translated into a free trade agreement.
What is the Common Agricultural Policy (CAP)?

Launched in 1962, the EU’s Common Agricultural Policy (CAP) is a partnership between agriculture and European society, and between Europe and its farmers. It aims to support farmers and improve agricultural productivity, ensure a stable supply of affordable food, safeguard EU farmers so they can make a reasonable living, help tackle climate change and the sustainable management of natural resources, maintain rural areas and landscapes across the EU, and keep the rural economy alive by promoting jobs in farming, agri-food industries and associated sectors. The CAP is a common policy for all EU countries. It is managed and funded at a European level with the resources provided by the EU’s Multiannual Financial Framework.

Where does Dairy fit in the CAP expenditures?

From a financial point of view, it is almost impossible to know the exact amount designated to the dairy sector from the EU Multiannual financial framework budget proposal for the CAP. Indeed, 70% of CAP expenditures are destined for decoupled and other direct payments, which are not registered by sector.

Concerning the CAP expenditure in market measures fostering the good functioning of agricultural markets, more than €57 million were allocated to milk and dairy products in 2019. This represents 0.1% of the total CAP budget and 2.4% of the total market measures expenditure.

In parallel, the total EU budget for the School Milk Scheme, over the period 2017-2023, is €100 million. This promotion measure is part of the overall School Scheme supporting the distribution of fruit, vegetables, milk, and certain dairy products to schooled children, from nursery to secondary school. More CAP figures can be found in the CAP statistical factsheet of the European Commission (June 2020).
What was the dairy quota system?

A milk quota (or more accurately dairy produce quota) was one of the measures used by the European Union to intervene in the dairy sector from 1984 to 2015. The purpose was to bring rising milk production under control. Milk quotas were attached to land holdings and represented a cap on the amount of milk that a farmer could sell every year without paying a levy. Take a look at the European Parliament website for a more detailed presentation of the ordinary legislative procedure.

How did the milk quota system evolve?

During the years in which milk quotas were in place, successive reforms of the EU’s Common Agriculture Policy (CAP) increased the market-orientation of the dairy sector and provided a range of other, more targeted, instruments to help support producers in vulnerable areas, like mountain areas where costs of production are higher.

As a consequence, to provide EU producers with more flexibility to respond to growing world market demand, the end of quotas was set in 2015, leading towards a progressive transition to a more market-oriented European dairy policy.

What are the current dairy policy instruments of the European Commission?

The EU uses a number of mechanisms to protect the milk sector during times of increased market disturbance. One of those, market intervention, provides a safety net in case of serious market imbalance, in the form of public intervention or aid for private storage. Public intervention consists of the buying up of a good by public authorities, placing it in public storage for as long as needed, until market conditions allow for its release back onto the market. For the dairy sector, public intervention is available for two products: butter and skimmed milk powder (SMP).

Aid for private storage is a mechanism through which the EU protects the dairy sector from market disturbance. This instrument covers part of the storage cost of a product while the product is temporarily withdrawn from the market. This support is available for butter, SMP and cheeses with a protected designation of origin (PDO) and protected geographical indication (PGI).

Read more...

For detailed information about dairy policy instruments, take a look at the Policy instruments for the dairy sector page of DG AGRI, or our EDA Annual Report.
Dairy Labelling: trademarks and Geographical Indications

What is a Geographical Indication?

According to DG Trade, a Geographical Indication (GI) is a distinctive sign used to identify a product as originating in the territory of a particular country, region or locality where its quality, reputation or other characteristic is linked to its geographical origin.

GIs can be named after a specific region or place (like Cantal or Fourme d’Ambert, both French cheeses) or can be related, historically, economically or symbolically, to a specific place name like Feta, which is not named after a place, but is often identified as a Greek product. They create value for local and national producers and contribute to the shaping of international cultural influence.

For a product made in the EU, the only way to register a GI is to send an application to the appropriate National Authority for its analysis. Then, it will be examined by the European Commission to verify its compliance with the EU legislation.

What are the specificities of Geographical Indications?

Protected Designation of Origin (PDO) covers specific products made in a specific geographical area. Protected Geographical Indication (PGI) is used for products with at least one of their stage of production in the linked geographical area. Finally, Traditional Speciality Guaranteed (TSG) is a scheme developed for products made thanks to a traditional composition or produced according to a traditional production method.

Did you know? #1

In July 2020, the EU had 3,717 different agri-food GIs, coming from all the Member States. According to eAmbrosia (EU geographical indications register), 253 cheese GIs are registered for a total of more than 300 dairy products with GIs.

Did you know? #2

Italy is the first European exporter of protected designation of origin (PDO) in terms of quantity with famous GIs like Parmigiano-Reggiano, Grana Padano or Gorgonzola.
What is the difference between trademarks and Geographical Indications?

To avoid misleading dairy consumers, trademarks may not be, at any time, mistaken with Geographical Indications (GIs).

Indeed, according to the Directive EU 2015/2436, a trademark is defined by the following words as a sign, in particular words, including personal names, or designs, letters, numerals, colours, the shape of goods or of the packaging of goods, or sounds. A geographical indication highlights a specific European product of traditional know-how, while the scope of a trademark consists in distinguishing the goods or services of one undertaking from those of other undertakings.

As EDA argued in its position paper of July 2015, this difference is particularly important in the current debate about the future legislation on voluntary origin labelling.

European Dairy Association (EDA)

www.euromilk.org/eda
eda@euromilk.org
Avenue d'Auderghem 22-28, 1040 Brussels, Belgium
@EDA_Dairy