
The EU poultry meat and egg sector

Main features,
challenges and
prospects



IN-DEPTH ANALYSIS

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Author: Marie-Laure Augère-Granier
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While the EU chicken-meat and egg sector shows some diversity within and between European countries in terms of farm and flock size, yield and type of farming, it is known to be one of the most intensive farming systems in the EU, with farms numbering hundreds of thousands of birds. This analysis aims to provide an overview of both sector structure in the Union and relevant EU legislation and policy instruments – from CAP support to farmers, and trade and marketing standards, to legislation with relevance to food safety, animal health and welfare, and environmental protection. This paper focuses on the main issues affecting the sector, a number of which are linked to the large-scale and intensive methods of production often used. It analyses prospects for the EU sector and aspects of international trade, as the EU is an important player, one of the top four chicken-meat producers in the world. It also touches on the European Parliament's recently adopted resolution on animal welfare, antimicrobial use and the environmental impact of industrial broiler farming. This paper is one in an EPRS series focusing on the EU's various agricultural sectors.

AUTHOR(S)

Marie-Laure Augère-Granier, Members' Research Service, EPRS.

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To contact the authors, please email: eprs@ep.europa.eu

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eprs@ep.europa.eu

<http://www.eprs.ep.parl.union.eu> (intranet)

<http://www.europarl.europa.eu/thinktank> (internet)

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Executive summary

Poultry meat is the second most produced and consumed meat in the European Union, after pig meat. The sector is known as one of the most intensive farming systems in the EU, with some farms numbering more than 100 000 birds. This intensive system features high stocking densities, indoor rearing and the use of fast-growing breeds obtained by genetic selection. It is estimated that 90 % of meat chickens are raised in such systems in the EU. However, alternative chicken production systems (free-range and organic) are on the increase in many EU countries. As regards egg production, the 400 million laying hens kept throughout the EU produce close to 7.5 million tonnes of eggs a year.

EU chicken and egg producers are supported by the common market organisation, as part of the common agricultural policy (CAP), which regulates trade, marketing standards and exceptional support measures in the event of disease outbreaks. Producers can also receive investment support from the CAP's second pillar, through various rural development measures co-funded by the Member States. Research carried out in the poultry sector is also supported by rural development funds within the agricultural strand of the European Innovation Partnership.

The poultry and egg sectors are governed by a number of EU legislative acts. These span food safety, public and animal health, environmental protection, trade and marketing standards, and animal welfare throughout the production process, including transport and slaughter. Specific legislation lays down minimum rules and specific requirements for the protection of chickens and laying hens.

Many of the issues currently affecting the sector are linked to its large-scale and intensive production methods. While high stocking densities and fast growth impact negatively on poultry welfare, intensive production can also be detrimental to the environment and human health.

When it comes to international trade, the EU is among the top four chicken meat producers, along with the United States, Brazil and China. Its trade balance is positive in volume and the EU is expected to increase its exports as global demand is set to remain strong, particularly in Asia, sub-Saharan Africa and the Middle East. The EU is also the world's second largest producer of eggs, after China, and a net exporter of eggs and egg products.

In a recent non-legislative resolution on animal welfare, antimicrobial use and the environmental impact of industrial broiler farming, Parliament expressed its concern about the inappropriate implementation of the EU directive on the protection of broilers by some Member States and the increase in multi-drug-resistant zoonotic agents in chicken farming. It therefore called on the European Commission to draw up a roadmap to promote better chicken farming practices.

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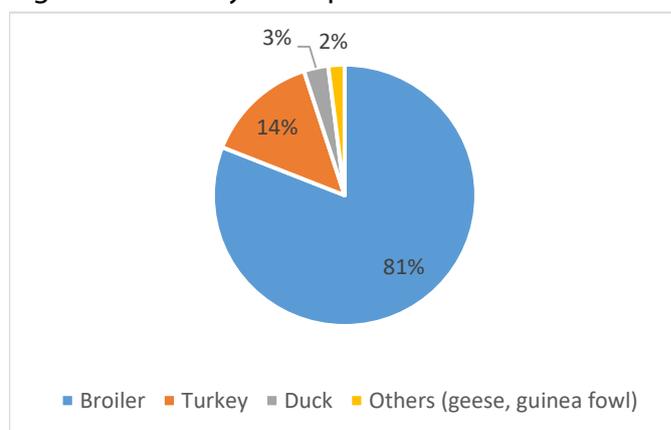
1. Facts and figures on the EU poultry sector

1.1. The poultry meat sector – production and structure

1.1.1. Overview of production and consumption in the EU

The European Union (EU) produced around [15 million tonnes](#) of poultry meat in 2018, which represented a cumulative rise of nearly 3.3 million tonnes in 10 years, since 2008. As EU poultry meat consumption did not rise in the same proportion, EU self-sufficiency has also increased, from 100 % in 2008 to 106 % in 2018. Today, about 70 % of EU poultry meat production comes from just six Member States: Poland (16.8 %), the United Kingdom (12.9 %), France (11.4 %), Spain (10.7 %), Germany (10.4 %) and Italy (8.5 %). Poultry accounted for [5 %](#) of total EU agricultural output in 2018 (€432.6 billion), equating 2.4 %.

Figure 1 – Poultry meat production in the EU



Data source: European Commission.

Broiler production is by far the largest sub-sector of the poultry meat production chain, followed by turkey and duck. Turkey production in Europe is concentrated in the six above-mentioned Member States, accounting for 88 % (or 1.8 million tonnes) of EU production of turkey meat. France is by far the [greatest producer](#) of duck meat, accounting for around 50 % of total EU production in 2014 (mainly meat and foie gras).

Chicken is second after pig meat when it comes to EU meat consumption. In 2018, average consumption was [24.1 kg per capita](#) (compared with 32.5 kg for pigmeat and 11.0 kg for beef). Chicken consumption is [continuing to grow](#) in almost all Member States.

In intensive production systems, chickens are genetically selected for fast growth, in order to achieve the target live weight of 2-2.5 kg in 35 to 45 days. During the second half of the 20th century, the growth rate of broiler chickens quadrupled, mainly as a result of genetic selection. The main three [commercial broiler breeds](#) are Cobb, Hubbard and Ross. [Slow-growing broilers](#) (from 70 to 81 days) have been gaining interest in many European countries in recent years (see below under 'Other types of poultry farming').

Broilers: chickens reared exclusively for meat production

Breeders: parent stock (male and female) kept to lay eggs for hatching

Chicks: young birds about to be hatched or newly hatched

Chickens: most important poultry species including laying hens and broilers

Free-range: a system for keeping livestock in which the animals are allowed to run free over a field or an area of land. For poultry it means the birds have free access to an outside area during the daytime but are usually housed at night.

Pullets: young chickens below the age for laying eggs. When reared for egg production, a pullet becomes a laying hen when it begins to lay eggs at 16 to 20 weeks of age. When reared for breeding, young male and female chickens are defined as pullets until 20 weeks of age.

1.1.2. Large-scale, intensive poultry farms

The poultry meat sector is one of the most [intensive](#) farming systems in the EU. Intensive broiler farming is characterised by high stocking densities, fast growth rates, very large holdings and indoor rearing. This farming model accounts for around 90 % of broiler production in the EU. The main EU producing countries tend to adhere to stocking densities of 33 kg/m² or higher, and a slaughter age in the range of five to six weeks.

According to Eurostat, some [891.4 million broilers](#) were produced on more than two million farms across the EU in 2013. Among the latter, 19 260 farms (holdings) had at least 5 000 broilers¹ for a total of 840 million broilers. Farms with more than 5 000 broilers represent only [1 %](#) of all broiler farms but account for 93.5 % of broilers, while farms with more than 100 000 head account for [38 %](#) of total poultry numbers.

In 2013, the average number of chickens on commercial holdings was 43 632, but in Czechia, Romania, Slovakia and Sweden, average numbers exceeded 100 000. The smallest flock sizes were found in Croatia, Lithuania, Malta and Slovenia. However, as there is considerable variation in the production structure, it is likely that both very small and very large commercial farms exist in all Member States. [Eurostat data](#) also shows that the number of broiler farms was extremely high in Romania, Poland, Portugal and Greece but, in contrast, these countries also accounted for 91 % of the farms with fewer than 5 000 broilers.

1.1.3. Other types of poultry farming

In addition to the regular production of poultry meat on large farms, [alternative broiler production](#) using slower-growing genotypes is on the increase in many EU countries. In the EU it is estimated that [2 to 5 %](#) of broilers are slower-growing birds. They are used in free-range and organic production with low densities and access to an outdoor area. The number of farms operating this model is small, except in France, the largest producer of organic broiler meat (accounting for [35 %](#) of all EU organic poultry head). Organic poultry production expanded at an annual pace of 13.5 % between 2013 and 2016 in the EU.

An example of alternative broiler production is 'Label Rouge' in France, characterised by a slow-growing breed, a low indoor density and access to an outdoor area. In France, about 12 % of all broilers have access to an outdoor run.

Between regular broiler production and organic production, there is also an intermediate market segment, **certified** broiler production, where slower-growing broilers are kept indoors until they are at least 56 days old. They are produced in France, the UK and the Netherlands, and to a lesser extent in Germany. This model is expected to grow in the coming years.

In the EU, an estimated [90 % of broiler chickens](#) are raised in intensive indoor systems, around 5 % in less intensive indoor systems, up to 5 % in free range systems and 1 % in organic systems.

1.1.4. The poultry meat production chain

There are a number of links in the poultry meat production chain, from production (breeding, hatching, growing, slaughtering and transport) to retail, and including animal feed supply. Production is either [integrated](#) or non-integrated. In the first case, a single company (the integrator)

¹ [Commercial production](#) is often defined as those holdings with more than 5 000 birds.

controls several or all links in the production chain. Many integrators contract the growing process to individual growers, who are paid a set fee for the facilities, labour and non-feed variable costs. The integrated model is found in Austria, France, Germany, Italy, Spain and the UK in particular.

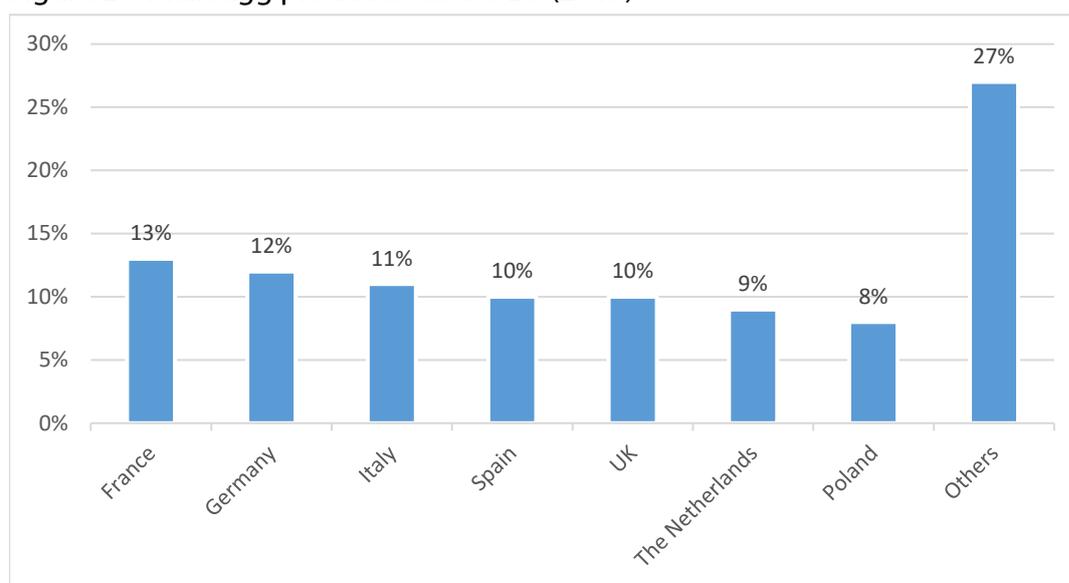
In non-integrated production, the different links in the chain are independent companies trading on the market. This means that breeders and growers buy feed and birds at their own risk, and are directly exposed to market fluctuations. Production tends to be non-integrated in Belgium, Finland, the Netherlands, Poland and Sweden.

1.2. The egg sector – production and structure

The European Union is the world's second largest producer of eggs after China, and a net exporter of eggs and egg products. It has self-sufficiency of around [105 %](#).

The more than [400 million laying hens](#) in the EU produce over 7.5 million tonnes of eggs annually, three quarters of which originate from seven Member States: France, Germany, Italy, Spain, the United Kingdom, the Netherlands and Poland (see Figure 2). About 10 % of production consists of hatching eggs. EU egg production increased by about half a million tonnes between 2010 and 2018.

Figure 2 – Main egg producers in the EU (2017)

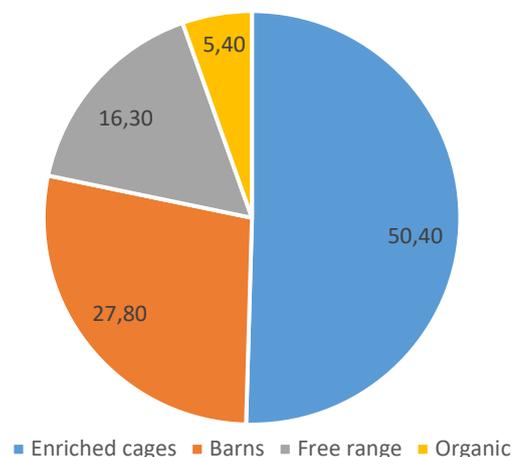


Data source: [European Commission](#).

The [organisational structure](#) in the egg sector is very different from the poultry meat sector, and varies greatly between countries. There is a link between housing systems for hens (either enriched cages or non-cage systems, such as barns), farm size and level of production chain integration (either semi-integrated or with no coordination).

1.2.1. Hen keeping systems

Figure 3 – Distribution of laying hens by housing method – 2018



Data source: [DG AGRI outlook 2018-2030](#).

There are four main systems for keeping laying hens in the EU. In [2018](#), half of the EU's hens were kept in enriched cages – cages equipped with perches, nests, scratching areas and nail shorteners, which replaced the conventional battery cages [banned](#) by the EU in 2012. The other half were kept in cage-free egg production systems: either barns, free-range or organic rearing systems (see Figure 3). Barns are large enclosures with litter on the floor and freedom of movement for the birds within the poultry house. Free-range systems are similar to barn systems with access to an outdoor run.

The [UK, Ireland and Austria](#) have the highest shares of laying hens kept in

free range systems, while Denmark and Sweden are the countries with the highest shares of hens reared according to organic methods.

1.2.2. Integration in the egg sector

The egg production chain is less integrated than the broiler meat production chain. However, in many EU Member States, such as the UK, Germany, Spain, Italy and Poland, egg production is widely integrated, with large companies sometimes keeping more than a million laying hens in cage systems.

Substantial portions of the chain are integrated, which means that pullet rearing, layer management, feed supply, packing, processing and marketing to the retailer are carried out by a single company or cooperative. Feed mills often play an important role in egg production, providing producers with feed, pullets and advice. This is the case in France and in the Netherlands. In most EU countries, there are independent layer farmers who bear the full risk of changes in input (feed and pullet) and output (eggs) prices.

In countries, such as Greece, Portugal and Romania, the egg production structure is non-integrated and fragmented.

In the [egg production chain](#), the various activities – breeding, hatching, rearing and egg laying – often take place on different farms to prevent the possible spread of diseases. Layer farms, especially the large ones, often include the egg grading and packing activities preceding delivery to the retail or wholesale market, to food services (restaurants, catering companies and institutions) and the food industry.

2. Overview of EU legislation and policy instruments

2.1. CAP support for the poultry sector

Historically, the poultry sector has never benefitted from direct support for production. Producers with no farmland as such do not receive any direct payments from the first pillar of the CAP. However, as most producers either breed other animals or cultivate land, they can benefit from direct payments. Egg production has never been subject to coupled payments or production quotas.

2.1.1. The common organisation of the markets

The poultry meat and egg sectors are both part of the common market organisation (CMO), under [EU Regulation 1308/2013](#), governing agricultural markets in the EU.

As such they are concerned by:

1) rules on [trade](#): import quotas, import duties² (as a way to ensure that EU economic operators are able to face the competition on the internal market with third countries), import and export licences that enable trade flows to be monitored;

2) marketing standards designed to improve the quality of products, protect the consumers and harmonise the internal market; Regulation [No 589/2008](#) lays down marketing standards for eggs sold in the EU, including egg grading, labelling, hen living conditions and record keeping. Commission Regulation No [543/2008](#) lays down detailed rules on marketing standards for poultry meat, fixing the parameters for monitoring water content and labelling of different methods of production. Both regulations implement the CMO provisions on marketing standards.

3) [information](#) such as egg prices, number of laying hens, selling prices of chickens at slaughter plants, etc.

Furthermore, [Article 220](#) of the CMO regulation states that the European Commission may take exceptional support measures when animal disease outbreaks³ and loss in consumer confidence threaten to disturb the EU market. These measures, which are 50 % co-funded by the EU, are taken

Common organisation of the markets (CMO) in agricultural products

Within the first pillar of the CAP, funded by the European Agricultural Guarantee Fund (EAGF), the common market organisation (CMO) is a set of rules that regulate and organise agricultural markets in the EU. Before the entry into force of the single CMO in 2007, there were 21 separate CMOs each covering specific products and all governed by their own regulations. The current CMO covers intervention on agricultural markets, marketing of agricultural products (e.g. marketing standards, geographical indications, labelling) and the functioning of producer and interbranch organisations. It also establishes the rules in international trade (e.g. licences, tariff quota management, inward and outward processing) and competition rules. Finally, it covers exceptional measures in cases of market disturbance and the reserve fund for crises in a sector.

² Additional import duties may also be applied under certain circumstances (Article 182 of the CMO Regulation).

³ Following the [avian influenza crisis](#) of 2005 to 2006, the European Commission amended the poultry and egg CMOs to allow the use of exceptional support measures.

only if the Member State that has requested them has taken the necessary health and veterinary measures to quickly eradicate the disease.⁴

The poultry sector can benefit from the **EU's promotion and information policy**, which is intended to open up new market opportunities for EU farmers and the wider food industry, and raise awareness among consumers of European product quality. A total of [€191 million](#) is available for promotion programmes selected for EU co-financing in 2019. For example, the EU contributed nearly €600 000 out of a total budget of €746 000 for a [programme](#) promoting European poultry in three South East Asia countries from 2016 to 2018.

2.1.2. CAP second pillar: rural development funding

The CAP's second pillar, which is EU support for [rural development](#), includes a set of measures that Member States can choose to include in their rural development programmes at the beginning of the programming period. Support for rural development is co-financed by the EU budget (the European Agricultural Fund for Rural Development – EAFRD) with compulsory co-financing by national/regional budgets. Many measures can benefit poultry farmers or entrepreneurs directly or indirectly:

- knowledge transfer and information measures;
- advisory services;
- quality schemes for agricultural products and foodstuffs;
- investment in physical assets;
- farm and business development;
- setting up of producer groups and organisations;
- organic farming;
- animal welfare;
- cooperation;
- risk management.

Examples of CAP second pillar support for poultry farms

In **Slovenia**, a [family farm](#) used rural development support to switch from cattle to turkey breeding in response to market demand. Under the 'investments in physical assets' measure, the EU provided more than a third of the total investment. A new poultry house with two tower silos and a water tank to collect rainwater were built. As a result, the overall production capacity more than doubled (with 20 600 turkeys bred annually), the family income increased as well and jobs on the farm were secured.

In **Bulgaria**, a large farm producing eggs used EU support (€656 000) to renovate and modernise two production sites in 2018. The [project](#) improved the farm's energy efficiency and working conditions, as well as the hygienic, veterinary, phytosanitary, and environmental conditions of production. Two new jobs were created by the project, contributing to employment levels in a rural area.

Also within European rural development policy, the agricultural European Innovation Partnership ([EIP Agri](#)) seeks to strengthen research and speed up innovation in agriculture by bringing together innovation actors: farmers, advisers, researchers, businesses, NGOs, etc. These can receive funding from the EAFRD or from the Horizon 2020 programme for international projects.

EIP Agri [focus groups](#) collect knowledge on best practice in a specific field, identifying problems and opportunities. They take stock of the situation in research and practice and highlight possible solutions to the problems identified. They then suggest and prioritise innovative measures. They involve farmers, advisers, the industry and other actors in identifying ideas for applied research and for testing solutions in the field. Two focus groups – 'Reducing [antimicrobial use](#) in poultry farming' and '[New feed](#) for pigs and poultry' – are currently dealing with poultry issues. The former is looking

⁴ In 2018, Italy received €32.1 million from the EU to support its egg and poultry producers, who were affected by avian influenza in 2017 and 2018.

into how to reduce the use of antimicrobial treatments in poultry in order to fight the spread of antimicrobial resistance. The latter is researching new sources and strategies to reduce pressure on natural resources while producing feed for pigs and poultry.

The Horizon 2020 programme can fund research and development in the field of poultry farming too. One example is the [Hennovation](#) project, which aimed to explore the potential value of multi-actor practice-led innovation networks within the laying hen industry in five countries. The 19 networks created, including farmers, processors, veterinarians, technical advisers, market representatives and researchers, tackled two particular farm animal welfare issues: feather pecking among laying hens and end-of-lay transport. They generated novel ideas and tested them in the commercial context.

2.2. EU legislation in the poultry sector

The poultry meat and egg sectors are affected by a number of EU legislative acts with relevance to **food safety, public and animal health, environmental protection, trade and marketing standards for poultry meat and eggs, and animal welfare during the whole production process**.

All food production in the EU is subject to the General Food Law ([Regulation \(EC\) No 178/2002](#)), which covers all the food production, processing and distribution stages. It set out an overarching and coherent framework for the development of food and feed legislation at both Union and national levels. It also set up an independent agency responsible for scientific advice and support, the [European Food Safety Authority](#) (EFSA). It ensures protection of human life and consumer interests in relation to food, while ensuring the effective functioning of the internal market.

Council [Regulation \(EC\) No 882/2004](#), meanwhile, sets out obligations for Member States to monitor and visit sites within the food production chain and to give inspectors the judicial authority to carry out audits at all levels of the breeding pyramid.

[Council directive 98/58/EC](#) is the EU legal basis for protection of animals kept for farming purposes ('No animal shall be kept for farming purposes unless it can reasonably be expected, on the basis of its genotype or phenotype, that it can be kept without detrimental effect on its health or welfare').

In 2016, an important piece of legislation referred to as the Animal Health Law, was adopted. [Regulation \(EU\) 2016/429](#) on transmissible animal diseases lays down principles and rules for the prevention and control of animal diseases in kept animals and wild animals and animal products. It is also designed to ensure the safe and smooth functioning of the internal market for live animals and their products. It is part of a package of measures proposed by the European Commission in 2013 to strengthen the enforcement of health and safety standards for the whole agri-food chain.

In 2009, the Union adopted [Council Regulation \(EC\) N° 1099/2009](#) on the protection of animals at the time of killing. It has been in application since 1 January 2013. [Council Regulation \(EC\) No 1/2005](#) lays down measures for the protection of animals, including poultry, during transport and related operations.

2.2.1. Legislation on broiler production

[Directive 2007/43/EC](#) lays down minimum rules for the protection of chickens kept for meat production. Its aim is to reduce the overcrowding of chicken holdings by setting a maximum stocking density (33 kg/m², with derogations) and to ensure better animal welfare by specifying requirements such as lighting, litter, feeding, noise, inspections and ventilation. It does not apply to

holdings with fewer than 500 chickens. For the first time in animal welfare legislation, the directive includes 'welfare indicators' that must be monitored or followed up at the slaughterhouse to inform the decisions taken at farms.

While the general rule is that the stocking density shall not exceed 33 kg/m², stocking densities of 39 kg/m² and even 42 kg/m² are allowed if additional specific requirements are met (set out in Annexes II and V respectively).

When it comes to [alternative broiler production](#) in the EU, the definitions, conditions and marketing terms are governed by [Regulation 543/2008](#). The production of organic broilers, meanwhile, is governed by [Regulation 834/2007](#), including the requirement to use organic feed. These requirements are summarised in Table 1.

Table 1 – Marketing terms and conditions for the production of alternative broilers, according to Regulations (EC) 543/2008 and 834/2007 (organic)

Production system	Min. age (days)	Max. indoor density (birds/m ²)	Access to outdoor run
Extensive indoor	56	15	No
Free-range	56	13	Yes, 1 m ² per bird
Traditional free-range	81	12	Yes, 2 m ² per bird
Free-range, total freedom	81	12	Yes, 2 m ² per bird
Organic	70 to 81	10	Yes, 2 m ² per bird

Source: [European Commission](#).

2.2.2. Legislation on laying hens

[Council Directive 1999/74/EC](#) (July 1999) lays down minimum standards for the protection of laying hens. It makes a distinction between three types of rearing system. One of these, the non-enriched cage system, has been banned since 1 January 2012. The systems in use today are: enriched cages where laying hens have at least 750 cm² of cage area per hen; and alternative systems where stocking density does not exceed nine laying hens per m² of usable area, with at least one nest for every seven hens and adequate perches.

Whichever system is used, all hens must have perching space, a nest, litter to allow pecking and scratching and unrestricted access to a feed trough.

The directive also provides that all egg production units must be registered with the competent authorities in EU countries and have a distinguishing number which can be used to trace eggs back to their farm of origin.

The animal health requirements for intra-Community trade in live poultry and hatching eggs are laid down in [Council Directive 2009/158/EC](#).

Following the designation of a centre for the welfare of pigs in 2018, the European Commission designated a [second EU reference centre for animal welfare](#), this time for poultry and other small farm animals, in October 2019. The centre, which will become operational in 2020, will be run by a consortium of institutes in France, Spain, Denmark and Italy. Its aim is to improve the application of EU legislation on the welfare of laying hens, broilers and small farm animals, including during transport and slaughter. It will offer Member States support with carrying out official controls on animal welfare; it will also help to promote good practice, conduct scientific studies, organise training courses and disseminate research and information on technical innovation.

2.2.3. Other legislation

The EU has passed legislation to limit the pollution of land, water and air. The [Nitrates Directive](#), adopted in 1991, is the main environmental legislation affecting poultry production in the Union. It aims to control pollution of waters by preventing nitrates from agricultural sources from polluting ground and surface waters and by promoting good farming practices. It is an integral part of the [Water Framework Directive](#).

Commission Implementing [Decision \(EU\) 2017/302](#) of 15 February 2017 establishes best available techniques (BAT) conclusions, under [Directive 2010/75/EU](#) of the European Parliament and of the Council, for the intensive rearing of poultry or pigs. This decision concerns farms with more than 40 000 places for poultry and is geared towards improving their overall environmental performance, in particular by reducing ammonia emissions, dust emissions, noise and odour. All poultry farms with more than 40 000 birds are required to hold an environmental permit.

EU farm animal welfare policy

The European Commission has been working in close collaboration with Member States to promote animal welfare for over 40 years, with the aim of improving the lives of farm animals.

European animal welfare legislation has evolved over that period, reflecting citizens' expectations and market demands. In 1998, an important step was the adoption of Council [Directive 98/58/EC](#), providing general rules for the protection of farm animals kept for the production of food, wool, skin or fur or for other farming purposes. Those rules were based upon the [European Convention for the Protection of Animals kept for Farming Purposes](#), reflecting what are referred to as the 'five freedoms': 1) freedom from hunger and thirst; 2) freedom from discomfort; 3) freedom from pain, injury and disease; 4) freedom to express normal behaviour; freedom from fear or distress.

Protocol No 33 to the Treaty of Amsterdam on protection and welfare of animals (1997) states that 'in formulating and implementing the Community's agriculture (...) the Community and the Member States shall pay full regard to the welfare requirements of animals (...)'. The Lisbon Treaty adopted in 2009, amending the Treaty on the Functioning of the European Union, acknowledged the recognition that animals are sentient beings (Article 13 TFEU). In 2012, the EU adopted a [strategy](#) for the protection and welfare of animals covering the period until 2015.

3. Key issues and challenges in the sector

Many of the key issues with the poultry meat and egg sector are linked to the **large scale and intensive methods of production** used ('industrial production'). [Intensively farmed chickens](#) are generally:

- reared indoors under high stocking densities (maximum 33 kg/m², with possible derogations);
- bred for very fast growth, reaching market weight in five to six weeks;
- inactive whereas they would otherwise normally spend 15 % of their time active;
- reared in bare broiler sheds, except for feeding and drinking points and litter.

Table 2 – Broiler farming practices in large poultry meat producing EU Member States

	PL	UK	DE	FR	NL
Stocking density (majority)	33 kg/m ²	38 kg/m ²	39 kg/m ²	39-42 kg/m ²	42 kg/m ²

Source: [AgriBusiness Consulting](#).

3.1. Impact of intensive rearing methods on the welfare of poultry

[Animal welfare](#) is influenced by a combination of genetic background, housing system, climate, disease challenges, feed, stocking density and stockmanship. The literature emphasises the negative effect of intensive rearing on animal welfare. The European Food Safety Authority meanwhile identifies fast growth rates in particular as a factor with a negative impact on various aspects of poultry welfare.

3.1.1. Genetic selection of broilers

The [genetic selection](#) of broilers has been generally geared towards meeting the need for fast growing chickens with high meat yields, the predominant system of production in the EU. Nowadays, standard broilers reach 1.5 kg body weight in less than 30 days whereas 120 days were needed in the 1950s. The cost of feed being the major factor affecting the economics of broiler meat production, selection has targeted a higher feed conversion rate (or the amount of feed consumed to increase body weight by one kg). However, rapid body weight gain negatively impacts the welfare of broilers; common issues are leg deformities and lameness, ascites⁵ and sudden death syndrome⁶. In recent years, more emphasis has been placed on non-production characteristics such as bone quality, cardiovascular efficiency and resistance to ascites.

3.1.2. Stocking density

The lack of space means that chickens usually suffer from a lack of exercise and cannot express their natural behaviour (perching, foraging and dustbathing). This can increase the incidence of lameness. Chickens also have more contact with the litter, which, if not properly managed, can cause foot pad burn, hock burn and breast blisters. High concentrations of ammonia in the shed due to damp litter can cause abnormalities in the eyes and respiratory tracts. Birds can also experience stress and pain during handling at the end of the growing period, when they are caught, put into crates, transported and slaughtered.

3.1.3. Welfare issues in the egg production industry

Other welfare issues are more specific to laying hens. In the egg production industry, male chicks, which are considered useless for egg farming purposes, are usually killed. In hatcheries, mass culling methods include gassing and crushing to death. Female chicks will usually have their beaks trimmed

EU citizens care about animal welfare

Special [Eurobarometer No 442](#) 'Attitudes of Europeans towards animal welfare' (2016) shows that the majority of EU citizens look for information on the method of production when buying animal products and that they are prepared to pay more for products sourced from animal welfare-friendly production systems. More than 80 % of EU citizens believe that the welfare of farmed animals should be better protected than it is now in the EU.

This attitude is reflected in the new [European Citizens' Initiative](#) entitled 'End the cage age'. Over 1.6 million EU citizens have signed a petition calling on the European Commission to put an end to the rearing of farm animals in cages (the signature collection closed on 11 September 2019). Around 170 NGOs have supported the initiative.

⁵ [Ascites](#) is the accumulation of fluid in the abdominal cavity and is a metabolic disorder resulting of dilatation and hypertrophy of the heart which leads to cardiac failure and changes in liver function.

⁶ Sudden death syndrome is the most frequent cause of death in flocks of broilers affecting mainly fast growing male birds.

to avoid [feather pecking](#), a very common welfare issue: in confined spaces, hens peck at each other's feathers, which can lead to injuries and even cannibalism.

Laying hens also suffer from lack of space and lack of exercise leading to problems with weak bones. Osteoporosis is also a consequence of the selection process, which has created breeds able to lay many eggs, a function that diverts hens' calcium reserves from bone maintenance into egg production. Finally, in commercial farms, hens are usually killed when egg production slows down ('end-of-lay'), at around [72 weeks](#) of age, although their life expectancy is otherwise six years on average.

Poultry welfare: two examples of innovative practice

In an attempt to find alternatives to the culling of male chicks, a [German company](#) has developed, in cooperation with the University of Leipzig, the first operational method for early gender recognition in hen eggs. As a result, the elimination of male chicks occurs at the early embryonic stage, through the destruction of eggs (containing a male embryo).

In France, a [farm](#) offers a second life to 'spent' laying hens (commercial farm hens that have become less productive, and so useless to the industry). The 16 000 hens are fed, housed and cared for on a 16 hectare estate until they die of old age. Their eggs are marketed at a price that reflects these costs and 2 million eggs have already been sold across 700 sales points in France and in Belgium.

3.2. Impact of intensive rearing on the environment and on human health

3.2.1. High use of antibiotics leading to antimicrobial resistance

[Several factors](#) account for the large quantities of antibiotics used in the poultry industry:

- the fast growth rate of broilers in intensive rearing systems, leading to health and welfare problems;
- high stocking densities resulting in health problems and increasing the risk of transmission of diseases;
- high concentrations of ammonia damaging the chickens' immune systems and increasing vulnerability to respiratory diseases.

In most countries in the world, [more than 50 % of the antibiotics](#) considered medically important for human health are used in livestock, and this figure reaches over 70 % in the United States. Antibiotics are administered to livestock for a variety of purposes: for the prevention and the treatment of disease and for growth promotion (increased feed-to-gain efficiency).

A threat for human health and the environment

There is a correlation between the [use of antibiotics in animals](#) and the development of resistant bacteria, as is the case for human use of antibiotics. According to the [European Medicines Agency](#), antimicrobial use in animals can contribute to the emergence of resistant bacteria that can be transferred to human beings through the food chain or by direct contact.

Antibiotics used in intensive poultry farming also have an impact on the environment. According to scientific literature, an estimated [75 % to 90 % of antimicrobial agents](#) administered to broilers are excreted into the environment. Evidence suggests that they have a toxic effect in the soil and aquatic environment (reducing the number of living organisms in waters).

The use of antibiotics as **growth promoters** in animal feed was allowed in the EU until the end of 2005. Since 1 January 2006 [Regulation 1831/2003](#) on additives for use in animal nutrition has forbidden the use of antibiotics (other than coccidiostats and histomonostats) as feed additives. Antimicrobial agents are therefore administered to chickens as preventive or curative treatments. In October 2018, [Parliament](#) approved new legislation to ban the prophylactic (preventive) use of

antibiotics in farming, which will come into force in 2022. [Regulation \(EU\) 2019/6](#) of 11 December 2018 on veterinary medicinal products continues and strengthens the EU's fight against [antimicrobial resistance](#).

3.2.2. Management of litter and manure waste streams

Farms with large numbers of birds (up to several hundreds of thousands in the EU) produce huge amounts of waste. As broiler manure is rich in nitrogen, phosphorus, potassium and other nutrients, it is widely used as fertiliser in agriculture. In intensive systems, it must be properly managed to prevent contamination of air, soil and water and a negative impact on human health. According to the United Nations Food and Agriculture Organisation ([FAO](#)), manure storage facilities and manure application are closely linked to emissions of ammonia (NH₃), nitrous oxides (N₂O) and methane (CH₄), the latter two being greenhouse gases.

[Poor litter management](#) can cause environmental problems and risks for human health, such as:

- the pollution of surface waters with nitrogen and phosphorus;
- ammonia emissions through litter management (production, storage, handling, land application);
- pollution of soils with heavy metals (arsenic, copper, zinc) which can make their way into the food chain;
- the spread of pathogens in soil and water resources;
- contamination of groundwater with antimicrobial residues, leading to increased risk of antimicrobial-resistant bacterial strains developing.

3.2.3. Other impacts

- In intensive broiler farming, various activities (such as cleaning or depopulating poultry houses or managing litter) create [broiler dust](#), which is a mixture of feather fragments, faeces, skin debris, feed particles and bacteria. Inhalation of airborne broiler dust can ultimately cause respiratory diseases in birds and in humans.
- On-farm carcasses (of birds that have died of diseases or other factors and were not slaughtered) can pose risks to the environment and human health. If they are not properly disposed of, they can transmit pathogens with zoonotic potential (avian influenza, fungi, bacteria, parasites), generate large amounts of leachate and other pollutants, or attract animals that act as external vectors of infection.
- Intensive broiler farming involves a large use of energy for heating, ventilation and air conditioning systems. However, evidence suggests that [energy use](#) depends more on the design of the poultry house than the nature of the system (intensive or extensive).
- In exploring the environmental impact of intensive broiler systems, feed is an important part of the equation. In the EU, wheat is the main cereal used in poultry feed but soy is also an important component, especially for broilers. According to Eurostat, 95 % of the soy used in the EU is imported from third countries. As reported by the FAO, feed production, especially when intensive, has a major impact on the environment, with the intensive use of mineral fertilisers, pesticides and herbicides in crop production. It also contributes to [deforestation](#) as more arable land is needed to meet the demand in soy products.

4. EU trade in poultry products

4.1. The EU's trading partners

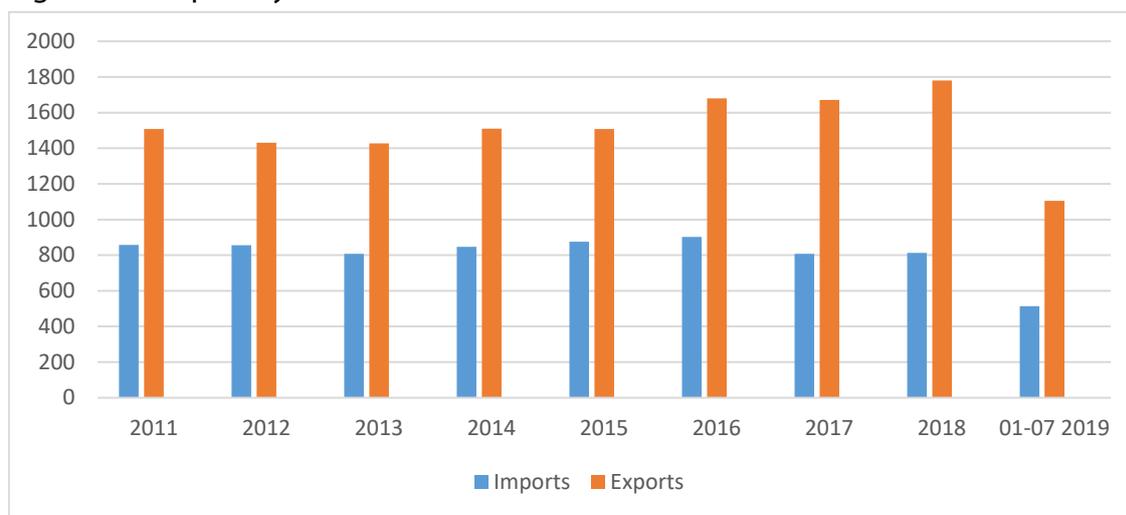
The EU is among the top four chicken meat producers in the world, with the United States, Brazil and China. Poultry meat production and consumption have been increasing steadily for many years in the EU and throughout the world, as poultry meat presents many advantages compared with other types of meat.⁷ Demand for meat is [generally increasing](#) in the world because of population growth, rising income and urbanisation. The poultry sector makes a substantial contribution to food security and nutrition, providing energy, proteins and essential nutrients to human beings.

The EU's main import countries are Brazil, Thailand, Ukraine, Chile and China. In 2018, the EU imported [813 000 tonnes](#) of poultry meat (carcass weight equivalent – CWE).

In 2018, EU's main [export destinations](#) were South Africa, Benin, Ghana, Saudi Arabia, Hong Kong, Ukraine and the Philippines. EU exports amounted to 1.78 million tonnes CWE. EU exports generally show flexibility in destinations and products.

International trade in eggs is relatively small compared to poultry meat, mainly because it is impossible to freeze them for transport over long distances.

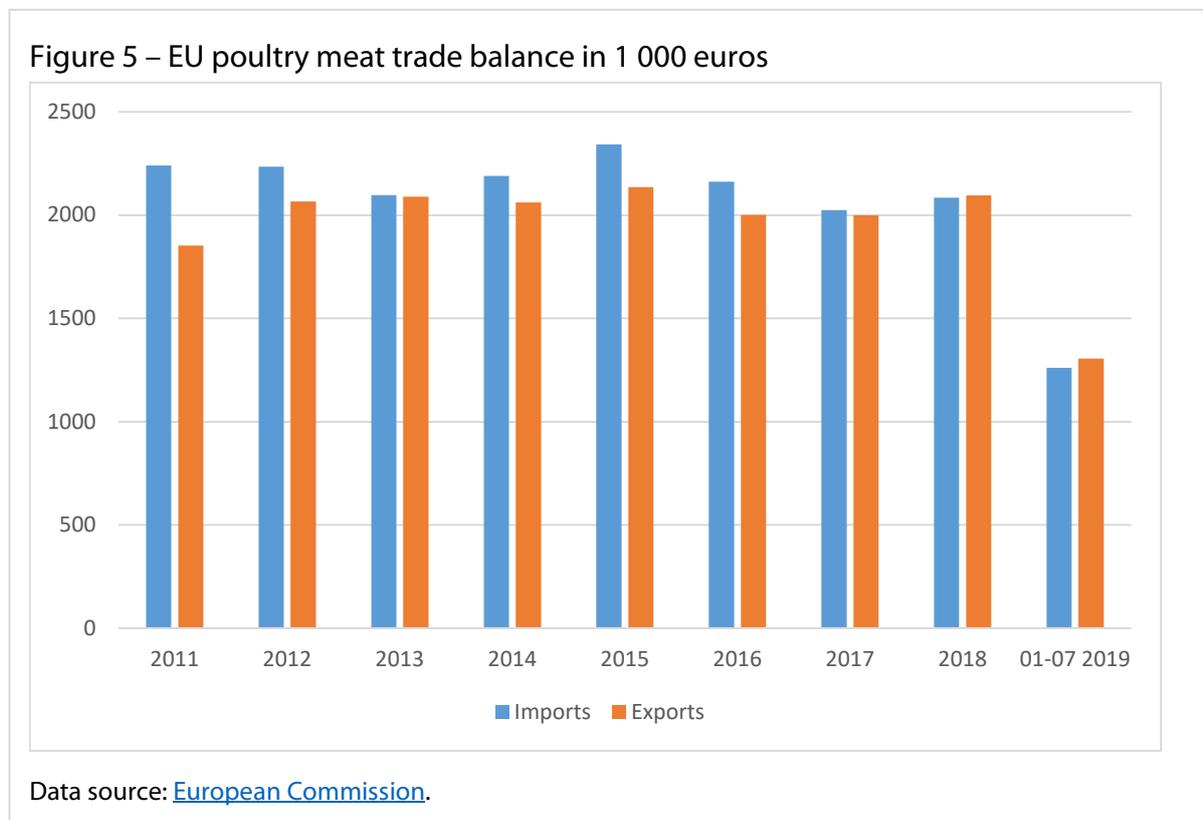
Figure 4 – EU poultry meat trade balance in 1 000 tonnes CWE



Data source: [European Commission](#).

⁷ According to the [European Commission report](#) on the EU agricultural outlook for markets and income 2018-2030, these are: affordability, convenience, absence of religious restrictions limiting consumption, healthy image, limited GHG emissions, lower production costs, short rearing time and lower required investments.

Figure 4 shows a large surplus in the EU trade balance for poultry in volume. When considering the value of the goods traded, EU imports and exports are nearly balanced (Figure 5), owing to the fact that the EU imports high value products, including breast meat and poultry preparations, and exports cuts with a significantly lower average value.



4.2. Recent trade agreements

The [EU-Mercosur agreement](#) in principle on the trade part of the EU-Mercosur Association Agreement, reached on 28 June 2019, envisages a poultry tariff rate quota of '180 000 tonnes CWE duty free, subdivided into 50 % bone-in and 50 % boneless. The volume will be phased in in six equal annual stages'.

The trade relationship between the EU and Ukraine, within the [Deep and Comprehensive Free Trade Area](#) in application since 1 January 2016, has recently been affected by an issue relating to imports into the EU of Ukrainian poultry products. Some Ukrainian exporters had by-passed the imposed [tariff rate quotas](#) for specific chicken cuts by creating a new type of poultry cut, which resulted in a significant surge in EU imports of these products. In March 2019, the EU and Ukraine negotiated a solution consisting of amending the trade preferences for poultry meat and poultry meat preparations provided for in the association agreement between the parties. On 5 November, the European Parliament's Committee on Agriculture and Rural Development adopted a favourable opinion on the draft agreement. The latter was then approved, by a large majority, by the Members of the European Parliament's Committee on International Trade (7 November 2019). On 26 November, Parliament voted in plenary to [consent](#) to the Council's conclusion of the agreement on behalf of the EU.

5. Prospects for the sector

According to the European Commission's [medium-term outlook](#) report (2018), poultry meat production and consumption in the EU are expected to expand by around 4 % between 2018 and 2030. Poultry meat consumption, which has grown rapidly in the EU over the last decade, reached 24.8 kg per capita in 2018. It is expected to increase further, though at a slower pace, in the coming decade.

The production increase is expected to be larger in those Member States that joined the EU in 2014 and after (+ 0.8 %), largely on account of sustained productivity gains and investments in Hungary, Poland and Romania. In a context of relatively stable feed prices over the 2018-2030 period, strong EU and world demand will together contribute to an expected increase in total EU production of up to 15.5 million tonnes by 2030.

The EU will also increase its exports as global demand is expected to remain strong, increasing at a rate of 1.3 % per year over the outlook period. The additional import demand will come mostly from Asia but also from sub-Saharan Africa and from the Middle East. A significant rise in demand is also expected from South America and the Caribbean countries.

EU poultry meat prices should remain around current levels in the first years of the 2018-2030 period. Then they are expected to decline slowly under increased competition (mainly from the US and Brazil) and reach around 1 860 €/t by the end of the period.

EU poultry meat imports decreased in 2017 to 2018 as a result of restrictions on shipments from Brazil, following the detection of faults in the Brazilian food safety inspection system. Those imports have been replaced in part by shipments from Ukraine, Thailand and Chile. Overall, in 2018, imports grew by 1.5 % year on year, and are expected to rise by 2 % in 2019 following an increased use of available quotas.

At global level, according to the OECD-FAO 2019-2028 [Agricultural Outlook](#), poultry will keep its dominant position in meat production, representing nearly half of all additional meat to be produced over the next decade. Its short production cycles enable producers to respond quickly to market signals and allow for rapid improvement in animal health, genetics and feeding practices.

6. Parliament's position

In a recent non-legislative [resolution](#)⁸ on animal welfare, antimicrobial use and the environmental impact of industrial broiler farming, Parliament expressed its concern that only two thirds of Member States have properly implemented [Directive 2007/43/EC](#) laying down minimum rules for the protection of broilers and that stocking densities higher than the general rule of 33 kg/m² are predominant in many places. Parliament is also concerned about the increase in multi-drug resistant zoonotic agents typically encountered in broiler farming.

⁸ [European Parliament resolution](#) of 25 October 2018 on animal welfare, antimicrobial use and the environmental impact of industrial broiler farming (2018/2858(RSP)).

It stressed that animal welfare is a preventive measure in itself, helping to reducing the risk of the animal becoming ill and thereby lowering the use of antimicrobials and delivering production results that are often higher.

It therefore called on the European Commission to draw up a roadmap to support and actively promote better broiler farming practices, and to promote policies encouraging the uptake of alternative rearing systems for broiler chickens that allow for higher welfare or traditional broiler breeds. It also recommended that the Commission establish an EU method of production labelling for poultry meat, and propose legislation on mandatory labelling of the origin of imported meat in EU processed products in the retail, catering and food service sectors.

In order to guarantee a fair and level playing field for EU producers, Parliament called on the Commission to ensure that imported chicken meat, meat products and preparations have been produced in line with the environmental, social, food safety and animal welfare standards of the Union; it also called for reinforced controls at borders on poultry meat imported from third countries to make sure these imports comply with EU legislation on animal welfare, food safety and the environment.

Parliament's [Intergroup](#) on the Welfare and Conservation of Animals gathers MEPs from different political groups and serves as a platform for exchange on animal welfare. It discusses many issues relating to animal protection and raises awareness about conservation issues at global level. It holds monthly meetings where experts, stakeholders, rapporteurs and members of the European Commission and Member States exchange views on various animal welfare issues. It has been at the forefront of a number of important initiatives. In 2017 it created a working group whose main objective was to support and promote the '[End the Cage Age](#)' [European Citizens' Initiative](#).

7. European Committee of the Regions and stakeholders

7.1. European Committee of the Regions

An opinion on the [Reform of the CAP](#) adopted by members of the European Committee of the Regions (CoR) during its plenary session held in December 2018 called for an end to the practice of rearing birds and animals in cages in Europe. The Committee argued that in order to respond to animal welfare but also public health (antibiotics) concerns, it was imperative to move to more extensive modes of production that avoided the use of cages by 2027.

7.2. Stakeholders

[AVEC](#) (Association of Poultry Processors and Poultry Trade in the EU countries) is the voice of the EU's poultry meat sector. Its members are national organisations representing poultry processors and the poultry trade in 15 EU Member States. AVEC's members account for 95 % of EU poultry meat production.

AVEC considers as an absolute requirement the compliance of poultry meat imported from third countries with EU legislation on food safety, animal health, environment and animal welfare. Recalling recent cases of significant non-compliance with EU rules, AVEC calls for the stricter control of all imports of poultry meat from third countries.

According to AVEC's [2018 annual report](#), EU poultry meat producers believe that consumers should have better access to information about the origin of meat especially when it is imported from third

countries. AVEC is therefore advocating 'the mandatory labelling of all products containing more than 25% of poultry meat with the mention "EU" or "non EU", along with the name of the country where the meat comes from outside the EU'.

In July 2019, AVEC strongly [criticised](#) the results of the EU-Mercosur trade deal negotiations, declaring that the EU poultry meat sector had been sacrificed – in view of the quota of 180 000 tonnes of poultry meat to be imported duty-free from Mercosur countries.

[Compassion in world farming](#) is a world-wide movement based in the United Kingdom. It opposes factory farming and seeks to put an end to farm animal suffering. The campaigns it has led include the 'End the cage age' petition. As regards poultry, the movement denounces the conditions in which birds are raised, transported and slaughtered in industrial farming and advocates more compassionate rearing methods. Its overall strategy relies on three main goals: 1) to achieve recognition that global action is needed to end factory farming and reduce overall meat consumption in favour of post-industrial agriculture; 2) to drive legislation to achieve better standards of animal welfare through campaigning and advocacy; and 3) to drive better animal welfare standards in the global food supply chain by working with food companies.

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While the EU chicken-meat and egg sector shows some diversity in terms of farm and flock size, yield and types of farming within and between European countries, it is known to be one of the most intensive farming systems in the EU, with farms numbering hundreds of thousands of birds. This paper aims to provide an overview of the sector's structure in the EU and of the relevant legislation and policy instruments – from CAP support to farmers, and trade and marketing standards, to legislation with relevance to food safety, animal health and welfare, and environmental protection. The analysis focuses on the main issues affecting the sector, a number of which are linked to the large-scale and intensive methods of production widely used. Attention is also given to the outlook for the sector and international trade aspects, as the EU is one of the top four chicken-meat producers in the world. Attention is also given to the European Parliament's recent resolution on animal welfare, antimicrobial use and the environmental impact of industrial broiler farming. This paper is one in an EPRS series focusing on the EU's various agricultural sectors.

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