

# Why is European animal production important today?

## Facts and figures

Dec. 14th, 2017

### 1. It has an important role in European and global food and nutrition security

**Animal products are essential for a healthy and balanced diet. Taking an active stake in Sustainable Development Goals (SDGs), the European animal production sector has a major opportunity to contribute to more sustainable food and nutrition systems.** European agriculture aims to **provide sufficient protein-rich, safe and healthy food for humans**, while responding to diversifying demands. The food system must be competitive on the global stage, but should also lead the way in environmental stewardship and ensure socially responsible European animal production in a changing world.

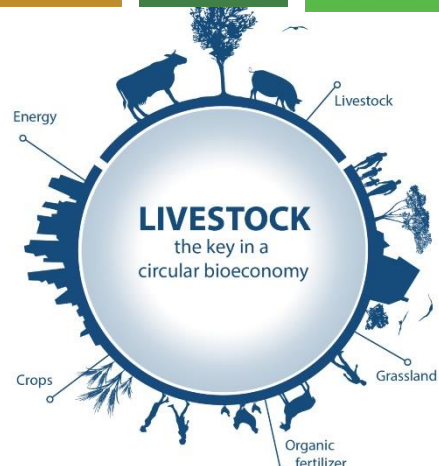


Although the European demand for meat might decrease slightly in the coming decades, **the worldwide demand for animal products is predicted to double over the next decades** due to population growth and increasing prosperity. This creates a huge opportunity for the European livestock sector and food chains in terms of export opportunities for animal products to areas/countries with high population growth that are often not able to produce the necessary livestock products for their own growing population.

### 2. Livestock farming has a key role in a European sustainable circular bio-economy

In a global circular bio-economy, livestock have many other valuable roles:

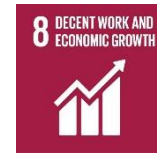
- **to contribute to a more efficient agriculture** by valorising food-chain by-products, recycling biomass from human inedible resources and using new European protein sources for efficient and robust animals; **to regulate the ecological cycles, close the nutrient cycle and improve soil fertility and carbon sequestration** by recycling and using manure as a bio-resource and using grasslands;
- **to provide raw material** for renewable energy (anaerobic digestion), thus contributing to the renewable energy transition and valuable by-products for industry (pet food, cosmetics, leather);
- **to provide ecosystem services** linked to the vitality of diverse territories, employment in rural areas, landscape and biodiversity preservation and cultural heritage.



**For more information, see outcomes of ATF events (2016) [-link](#)**

### 3. The livestock sector contributes to the European economy and employment

Livestock are present in almost all regions in Europe in a wide diversity of production systems according to local economic, geographical & sociological contexts. **The livestock sector contributes substantially to the European economy** (€168 billion annually, 45% of the total agricultural activity), **to the trade balance and creates employment for almost 30 million people.**



**European production standards are extremely high** compared with those from other parts of the world in terms of animal welfare, safety, healthiness, environment, etc. They must be valued and supported. Reduction of livestock farming would potentially decrease the supply of high quality and safe European animal products, and favour imports of animal foods with an overall lower standard quality, namely welfare quality.

**Livestock farming is a key element for the vitality of many European territories.** The livestock sector in Europe has to overcome difficulties and maintaining sufficient farmer incomes and economic viability of holdings must be guaranteed. Technology and innovation in agriculture are expected to offer young people career opportunities to cope with unemployment and limiting urbanization process and migration to the cities.

The **Animal Task Force (ATF)** is a leading body of expertise linking European industry and research providers for developing innovation in the livestock sector.

Our members are research providers from 18 Member States of the EU (Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden, UK), plus Norway, Switzerland and Serbia, and industry representative bodies that support the interests of Europe's livestock industries (AnimalHealth Europe, FABRE-TP, FEFAC, FEFANA, ECIP, EU PiG). We work together to identify actions that are needed to foster knowledge development and innovation for a sustainable and competitive livestock sector in Europe.

For more information, please visit: [www.animaltaskforce.eu](http://www.animaltaskforce.eu)

Contact: [info@animaltakforce.eu](mailto:info@animaltakforce.eu)

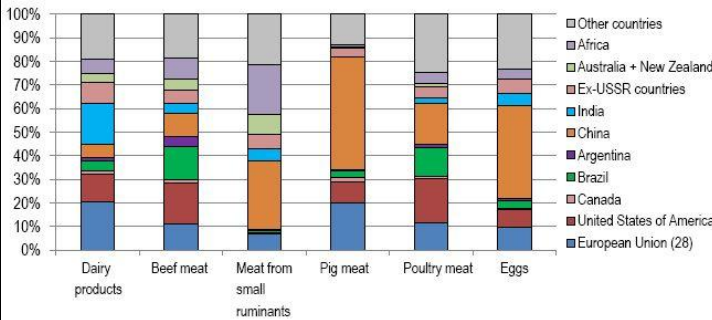
# Livestock farming today in the EU

(Source ESCO INRA, 2016)

## Livestock production

The livestock sector contributes substantially to the European economy (€168 billion annually, 45% of the total agricultural activity). It is much higher in countries like Ireland (74.2%), Denmark (66.4%), UK (60.2%), Belgium (58.9%).

The EU is the largest producer of dairy products in the world, before India, and the second largest producer of pork after China.



Part of the major economic regions in animal productions volumes in 2013 - Source: Inra based on FAOSTAT<sup>1</sup>

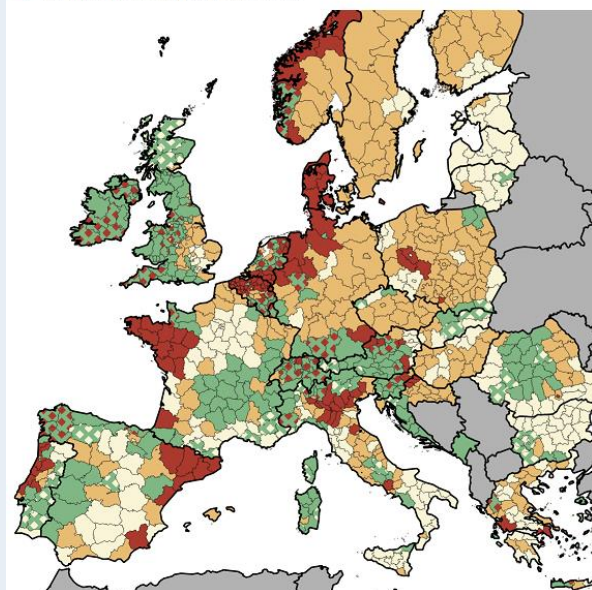
<sup>1</sup> <http://faostat3.fao.org/home/E>

A third of all farm animals –especially dairy, pigs, and poultry– are concentrated within a small number of areas (Denmark, the Netherlands, northern Germany, western France).

The “average European livestock farm” uses 34 hectares of agricultural land area and has a herd size of 47 LSU, with a high level of variation according to livestock systems and countries.

**Diversity of systems:** Livestock are present in almost all regions in Europe in a wide diversity of production systems according to local economic, geographical & sociological contexts, and for which the solutions to improve production sustainability and competitiveness are different.

## Typology of European livestock production areas (Source: INRA based on Eurostat, 2010)



## Labour and jobs

**Employment:** European livestock farms employ around 4 million people (salaried and non-salaried), 80% of whom reside in the more recent EU member-states. Mixed crop-and-livestock and dairy farms account for the largest share of jobs (37% and 25%), far ahead of pig and poultry farms (8%), which are fewer in number but larger in size and have the largest percentage of salaried positions. Some geographical areas are highly dependent on such jobs, given the importance of animal production in the local economy.

**Work:** The average livestock farm typically has 1 to 2 workers. Family labour continues to decline, and is being replaced by salaried employees (representing 15% of workers on livestock farms across the EU, with marked variation between countries), agricultural labour services, and new collective/collaborative arrangements. Livestock management practices are changing rapidly. **Technology and automation** have a direct impact on labour hours, making it possible to streamline livestock production practices.

**Associated sectors:** European industries linked to animal production (milk and meat processing, feed for livestock) have an annual turnover of approximately €400 billion (2013). Although the total number of companies is high, these agri-food sectors are dominated by a few large corporations of global importance. Across all these sectors, the search for improvements in cost efficiency and differentiation based on quality and labelling programs play a key role in competitiveness.

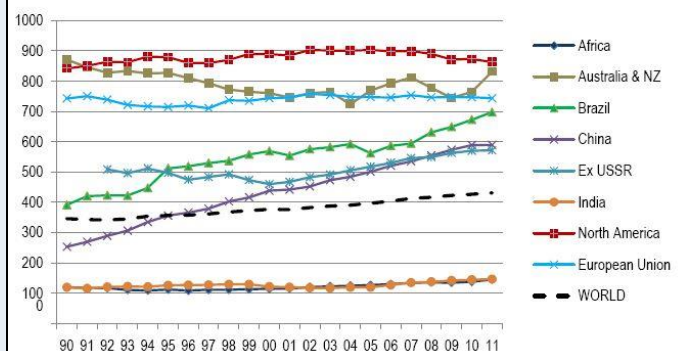
## International trade and global demand

The EU is generally self-sufficient in animal products and sells on the world markets (€19.5 billion).

The EU is a net exporter of pig meat (2.2 Mt), dairy products (€11.8 billion), poultry meat (0.5 Mt) and eggs (0.14 Mt). It exports live animals of many third countries (around 0.2 Mt eq. carcass). The trade balance of dairy products is positive for all product categories (€11.8 billion).

With a global population expected to surpass 9 billion by 2050, the highest potential of growth of demand for animal derived products is located in Asia and Africa. Asia already represents more than 45% of the world meat consumption.

kcal/person/day



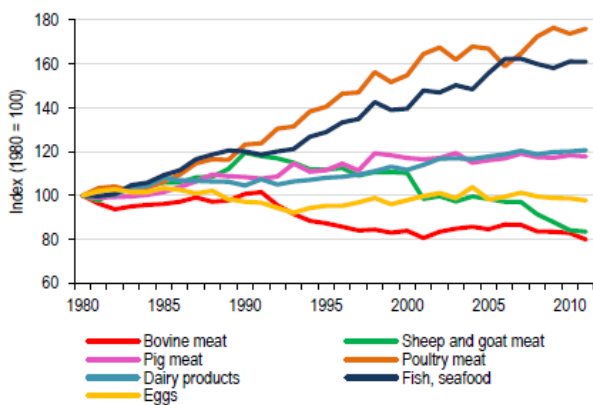
Consumption of livestock farming derived energy per inhabitant in various regions of the world between 1990 and 2011. Livestock products that are concerned are meats, dairy products and eggs (fish is excluded). Source: Globagri (2015)

## European consumption of European products

Consumption of animal proteins has held steady in Europe since the 1990s, albeit with some substitution of products (Figure 2). Consumption levels and trends are diverse in different countries. In general, we see:

- substitution of red meats by white meats (mainly poultry);
- development of foods produced under quality labels, reflecting an increasing European appeal for heritage or high-culinary value products. This trend toward high-quality production processes and products also reflects distrust in the agrifood industry.

Figure 2. Change in animal protein consumption per person in the EU-28 from 1980 to 2010 - Source: FAOSTAT



## Livestock farming benefits

### Contribution to food and nutrition security and safety:

Animal products are characterised by their high protein content, a well-balanced Average Amino Acid Identity (AAI) composition, with a high digestibility in the human small intestine. The nutritional value of animal proteins is much higher than plant proteins (FAO). WHO (2007) recommended that a balanced diet should include 50 to 70 g/inhab/day of animal proteins for an adult.

Meat proteins and dairy products have an **AAI** content (40%) that is higher than proteins of plant origin, especially cereals and potato (under 35%).

Animal products are also important sources of vitamins e.g. A, B6, B12, and D, and minerals such as potassium, calcium, iodine, iron, phosphorus, selenium and zinc. Importantly, essential micro nutrients (vit. B12, specific fatty acids) are not found in products of plant origin or are only found in poorly digestible forms (iron).

The continuous reduction in consumption of animal products may have consequences on the most vulnerable populations (iron deficiency for women, sarcopenia for population over 75 years old).

In European countries, the contribution of animal products to dietary protein supply is high on average, thus avoiding any nutritional deficiencies. But the average figures conceal a very high variability across population groups.

**Among other roles, livestock farming provides diverse services** varying according to production systems (markets, work and employment, inputs, environment and climate, and social and cultural factors), and that have to be analysed using a systems approach in order to avoid trade-offs.

## Inputs and resources used

**Animal feed:** European livestock farms annually consume 220 million metric tons of cereals and oil-seed/protein crops. The EU imports 70% of the oil-seed/protein crop proteins (primarily soya) that it feeds to animals. When proteins contained in all concentrated feeds are counted, the protein-dependence of the EU drops to 40%, and is even lower when one counts the proteins contained in rough forages and grasses.

**Land use:** Within the EU, approximately 60% of the total planted area is dedicated to feeding the European livestock herd. Half of the cereals produced are used to feed pigs, a quarter to feed poultry and a quarter to feed ruminants. In some regions, highly productive grass-based systems can be operated for ruminant production. Most EU countries have territories where ruminants can be maintained on extensive grass-based systems on land unsuitable for cultivation. Utilisation of grasslands and rangelands avoids competing with the production of biomass for human consumption.

Estimates vary as to the amount of arable land outside the EU used to feed European farm animals, depending on how land area is calculated and what assumptions are made.

**Energy:** Livestock production consumes approximately 45% of all energy used in agriculture (28 Mtep/year in the EU). Livestock operations can also be energy producers via the use of effluents to produce biogas. Germany produces two-thirds of European biogas, with nearly 9,000 farms participating.

**Phosphorus:** Phosphorus is a non-renewable resource. As a nutrient fed to animals, most supplied phosphorus is eliminated in animal waste, recycled as a fertilizer and contributes approximately to 40% of crop phosphorus inputs in France.

**Water:** Assessment methodologies refer to different types of water ("blue", "green" water) and use a variety of indicators. Given these factors, findings are so widely variable as to be difficult to compare: according to different sources, production of a kilo of beef can require 27 litres or 53,200 litres of combined blue and green water, a kilo of pork from 4,800 to 6,000 litres, etc.

## Environment and climate

**Greenhouse gases.** Livestock accounts for 40% of global agricultural emissions or 5% of total emissions, 90% of ammonia emissions, producing about 2,400 Mt of CO<sub>2</sub> equivalent annually. Enteric emissions, manure and deforestation are among the principal contributors. Conversely, grassland systems are capable of long-term carbon storage in soils under permanent grass via the incorporation of organic matter using animal manure.

**Air quality:** Livestock farms are also the principal emitters of ammonia (accounting for 90% of ammonia emissions).

**Soils:** Livestock operations alter the biological and physical properties of soils by contributing to organic matter and nutrients favourable to soil fertility, but can also contribute to biological, pharmaceutical and chemical contaminants. These impacts vary according to soil use. The most positive effects are linked to grasslands, the most negative effects result from high animal densities.

**Water quality:** In areas of high animal density, nitrogen and phosphorous leaching and runoff contributes to the eutrophication of waterways (lakes, rivers and coastal areas), deterioration of water quality and an increase in water treatment costs. The EU has placed a strong emphasis on monitoring and reducing nutrient loading from effluents (the Nitrates Directive).

**Biodiversity:** The positive effects of livestock farming on biodiversity are associated with the use of permanent grasslands and upland areas, environments rich in floral and faunal diversity that would afforest or close over in the absence of livestock grazing.

The loss of permanent grasslands and increased fertilizer use, among other factors, have reduced plant diversity levels associated with livestock production.

The biodiversity of domestic livestock species has fallen sharply. A handful of specialized breeds now predominate, with large population sizes covering large geographic areas. The institutional context has become more favourable to the maintenance of local breeds since 1992.

## Social and cultural factors

**Issues linked to animal health:** 75% of emergent human infectious diseases are of animal origin.

Livestock diseases are responsible for 20% of production losses at global level.

The spread of antibiotic resistance has increased scrutiny on the misuse of antibiotics in livestock production. Resistance can be diffused into the environment through manure spreading, with antibiotics exerting selection pressure on bacterial flora in the soil. In addition, many biological agents (pathogenic microorganisms, viruses, parasites) and chemical substances (synthetic hormones) present in effluents are also potential contaminants.

**Heritage and cultural aspects:** A wide diversity of cheeses and dried meats testify to the richness of European food heritage linked to animal products. The number of EU quality labels continues to rise (600 in 2015). Nevertheless, the transmission of artisanal skills and knowledge remains uncertain. Pastoral livestock systems also contribute to the creation of readily identifiable cultural landscapes that are attractive to a largely urban European society.

**Animal welfare:** Animal protection was introduced into European law in 1990, with the goal of establishing a common framework for livestock management, transport, and slaughter practices. Such legislation is necessary because of the large number of animals bred and slaughtered each year in the EU. The evaluation of animal welfare is, however, a complex task. Livestock farmers' practices vary widely, and "best practices" are poorly recognised by labels, although some countries have developed them (the United Kingdom, the Netherlands).