



The urgent case to stop factory farms in Europe

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Executive summary

The number of farms in the European Union has declined very rapidly in the past decades, largely as a result of disastrous agricultural and trade policies. At the same time, meat production in many EU countries is increasing, driven especially by exports. The remaining farms are becoming ever-larger with a lower diversity of animal breeds. This has seen a rise in factory farms, characterised by large numbers of animals being confined in crowded spaces with insufficient pastureland to feed the animals - meaning that feed has to be brought into the farm.

This model of production brings social, economic and environmental problems at the local to global scale. These problems are already well documented in the US, where factory farming is more widespread, and the impacts are increasingly evident in Europe.

Water pollution, air pollution, and the massive amounts of (ammonia and nitrogen rich) manure produced by factory farms affects the local communities living near factory farms and harms wildlife and biodiversity.

Workers on factory farms and throughout the meat processing industry are often migrant and undocumented labourers. Many of them live and work in appallingly cramped and unsafe places - which

has increased the spread of diseases including Covid-19 amongst workers in abattoirs and meat processing plants.

The rise of global pandemics (bird flu and swine flu) has been directly linked to factory farms. Moreover, the routine dosing of antibiotics to factory farmed animals is increasing the risk of antibiotic resistant bacteria ending up in meat.

At a global scale, the massively increased production of soya in South America - 3/4 of which is used to feed farmed animals - is responsible for widespread deforestation, environmental destruction and human rights abuses. Deforestation, together with the high intensity of resources, and the waste produced by factory farmed animals, emits a

significant amount of greenhouse gases that are exacerbating the climate crisis.

The concentration of ownership of the meat production industry is bad news for consumers and for small-scale farmers who are driven out of business or forced to enter contracts with these companies.

Solutions exist in the form of agroecological practices. They demonstrate that meat can be produced in a way that not only respects environmental and health considerations, and provides appropriate conditions for animals, but is also more independent, consumes less resources, and uses more sustainable agricultural practices. Yet, these practices cannot flourish while markets are dominated by large corporations.

A ban on factory farming and reducing the number of farmed animals in the EU is needed to create the space for these alternatives to develop. There is a role for decision makers at national and European level to acknowledge the problem

and take action, including through: removing direct and indirect support for the increase in factory farming; ensuring environmental legislation is in place and implemented; guaranteeing fair treatment of small-scale farmers and workers

throughout the food chain; and reorienting Common Agricultural Policy subsidies while providing the funds for a just transition for farmers and agricultural workers.



What is a factory farm?

A factory farm has been defined as “a system of farming in which a lot of animals are kept in a small closed area, in order to produce a large amount of meat, eggs, or milk as cheaply as possible.”¹ Instead of allowing animals to forage for their feed in pasture or other open areas, factory farms confine the animals and bring food to them. For the purpose of this report, we will define factory farms or industrial farms, as those farms which have several of the following characteristics:

- Large number of animals are confined and concentrated on a small area;
- All or most of the feed comes from outside the farm, and is concentrated feed whose price relies on global markets;
- Uses a high amount of antibiotics in feed and/or water;
- Have insufficient land to spread the manure produced by the animals in a sustainable way;
- High level of specialisation;
- The farm is vertically integrated: the company owns the animals, feed and antibiotics.

There is no single definition of factory farms in Europe.² The Environmental Impact Assessment Directive (2011/92/EU) governs farms with space for more than 60,000 laying hens, 85,000 broiler chicken, 3,000 pigs, or 900 sows. The Industrial Emissions Directive (2010/75/EU) regulates farms with space for more than 40,000 poultry, 2,000 pigs, or 750 sows. “Very large farms” are defined as farms with an economic output of more than €100,000 per year.³

Introduction

The European Union is one of the world's largest consumers of meat, with a consumption of 71.3 kg per capita in 2018, more than twice the global average.⁴ EU meat production is expected to reach 47.5 million tonnes by 2030, driven by domestic and international demand. As global meat consumption is estimated to increase by an average of 1% per year between 2017 and 2030 to a global total of 365 million tonnes (34.7 kg per capita) in 2030,⁵ the bloc is also becoming one of the largest exporters of certain types of meat, especially pork.⁶

Over the past few decades, the food system in Europe has become increasingly dominated by factory farms

that confine thousands of cows, pigs or tens of thousands of chickens in tightly packed facilities. Misguided trade and agricultural policies have pushed farmers to adopt more intensive practices, driving an increase in the average number of animals per farm. Yet many livestock producers are struggling to survive, and small and medium sized farms are closing in increasing numbers.

These intensive farming methods produce cheaper meat for consumers and profits for agribusiness. While policies on food and farming are discussed at European level, they don't look at the external costs of our reliance on factory farming for meat production.

The full costs of production and consumption are not included in the price paid at the supermarket check-out. The "polluter-pays" principle is not applied to factory farms, and their pollution is cleaned up using taxpayers' money, or increasing the price that is paid for basic human needs such as water.

Other social and environmental costs are borne by farmers, consumers, local residents, and food sector workers – in the form of ill health and poor working conditions – and by the environment in Europe and globally.



The European Union is one of the world's largest consumers of meat, with a consumption of 71.3 kg per capita in 2018, more than twice the global average.⁴

Global meat consumption is estimated to increase by an average of 1% per year between 2017 and 2030 to a global total of 365 million tonnes.



Scientific studies, as well as the experiences of people who produce our food and the communities living near factory farms, have highlighted a host of negative impacts on our environment, public health, local economies, food safety, animal welfare, biodiversity and worker safety. Global health and environmental crises have shown clearly that our food system must change. This briefing brings together research from

Europe and the US (where factory farms are more widespread) to show the real costs of factory farming in terms of water and air pollution, ill health, the risks of antibiotic resistance, deforestation, biodiversity loss, human rights abuses and the climate crisis.⁷

Many people in Europe are becoming more aware of the impact of our food system, and they are deci-

ding to produce and consume less but higher quality meat and dairy, produced with higher welfare standards, including organic produce. There is a growing call for public policies that reduce the control of big business over the food chain and protect the environment and rural communities.

Fewer, bigger, more intensive farms- with fewer farmers and fewer animal breeds

Over the past decades, the face of farming in Europe has changed beyond recognition. There has been a massive decrease in the number of farmers and farms, especially those farms rearing animals. At the same time, there has been a corresponding increase in the average size of farms, the number of animals per farm, and the density of livestock. The variety of species being farmed has also fallen dramatically.

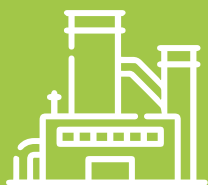
Farm enlargement, innovations in animal husbandry such as new housing systems, forage management, and other developments in genetics and health care, have led to higher output per animal and lower prices. Many thousands of the smallest farms, often run by subsistence farmers, have been unable to keep up with this process of intensification, and have gone out of business, to be taken over by larger companies. Some of the biggest changes have been seen in the countries that joined the EU since 2004 as they underwent a process of structural adjustment, involving the concentration of land ownership in the hands of fewer and larger farms.⁸

The rise of factory farming was no accident, or natural phenomenon. It resulted from public policy choices – especially the EU's Common Agricultural Policy (CAP) and international trade deals. Over the last decades, the CAP has been supporting more intensive production methods, paying more to those who produce more. Attention to sustainable production has only come in recent years, with insufficient action to move away from the industrialisation of animal farming. At the same time, international trade deals and high consumption levels have served as a vehicle to increase demand, within the EU and for export. Much of this is being driven by the interests of big agribusinesses, the feed industry, supermarkets, meatpackers and processors. These are the companies that dominate the critical steps in the food chain between farmers and consumers.⁹

Between 2005 and 2013 the total number of farms in the EU fell by almost one quarter, (a decrease of 3.7% per year). The largest declines were in Slovakia (-12.5%/year), Bulgaria (-8.9%/year), Poland (-6.6%/

year), Italy (-6.5%/year), the Czech Republic (-5.8%/year) and Latvia (-5.5%/year). As the amount of land used for agriculture barely changed (+0.1%/year), average farm size increased significantly, in terms of land area and economic production.¹⁰

By 2016, barely more than one half (55%) of farms in the EU kept livestock, a decrease of one third since 2005. Slovakia (-72.2%) and Bulgaria (-71.9%) saw the greatest decreases, while the number of farms keeping livestock also more than halved in Estonia, Lithuania and Poland.¹¹ Over the 30-year period up to 2013, four out of every five dairy farms disappeared in the initial 10 EU member states. This was accompanied by a gradual decline in the number of dairy farmers in the EU (-6%/year on average).¹²



At the same time as farms are closing, there has been a shift towards more livestock and poultry being reared on very large farms.¹³ In the same period, the number of animals on very small farms more than halved.¹⁴ The number of animals on very large farms has increased by almost 10 million animals between 2005 and 2013 to reach 94 million.¹⁵ Very large farms now account for 72.2% of all the animals being reared in the EU. In the Benelux countries and Denmark, more than 90% of animals are reared on very large farms.

Average livestock density has also increased. The most dense stocking is in The Netherlands, with 3.8 animals/ha (density has increased by 6.3% between 2013 and 2016). Bulgaria has the least dense livestock farming, but density increased in the same period by as much as 11.1%, to 0.2 animals/ha.¹⁶ In addition, 68% of the total agricultural land is used for animal production.¹⁷

Intensification has led to the selection of a few highly efficient breeds and the loss of local and rare animal breeds.¹⁸ In Europe, half of

the breeds that existed at the turn of the 20th Century have become extinct, and 53% of the remaining local breeds are at risk. The narrowing of the genetic base for farm animals means a loss of traits that allow resistance to certain diseases or more resilience in harsh weather conditions. Limiting breeding to just a few breeds of animal is creating a precarious situation for the future food supply.

A clear example can be seen in the factory farmed chicken industry, where extremely high laying perfor-

mance and fast meat growth are the most important criteria. Hundreds of breeds of chickens currently exist, but factory farmed chicken for meat and egg production uses a very small number of powerful hybrid lines, based on the targeted selection and crossing of animals from different pure breeds by a handful of companies (Cobb-Vantress, Hendrix, Aviagen/EW group and Groupe Grimaud).²¹

In Europe, half of the breeds that existed at the turn of the 20th Century have become extinct,¹⁹ and 53% of the remaining local breeds are at risk.²⁰



Spain²²



KEY FIGURES

**53 million pigs
slaughtered
in 2019**

**4.6 million tonnes
of meat**

**30.8 million pigs
being reared, the
largest number in
the EU**

**61% of farms
disappeared in a
decade**

Spain's pork industry is expanding rapidly, with development characterised by increased concentration, low production costs, and heavy reliance on exports and international markets.

In 2019, the industry slaughtered nearly 53 million pigs, creating 4.6 million tonnes of meat, an increase of more than 20% since 2013. This increase is largely export-led, with exports increasing 42.4% between 2016 and 2019- mainly for the Chinese market. The industry accounts for 37% of total livestock production in Spain, and 14% of total agricultural production in the country. With 30.8 million pigs being reared at any time, it has the largest number of pigs in the EU.

The total number of pig farms in Spain has declined dramatically in recent years. Between 1999 and 2009, more than 110,000 farms disappeared, a loss of 61% in only a decade. Over that same period, the country's total pig population increased by 12.3%. Between 2009 and 2013, another 18,000 pig farms disappeared in Spain, a 25% decrease, leaving just 51,767 farms remaining. Over the same period, the number of animals per farm boomed: from an average of 122 in 1999, to 354 in 2009, and 467 in 2013.

Of the pig farms that remain in Spain, 80% are considered "intensive" operations, together housing more than 90% of Spain's pigs. Feed accounts for 70-80% of pork production costs, while labour accounts for just 2.1%. By 2009, intensive pig farms had accommodation for 27.5 million pigs, with 87.3% of pigs housed indoors on

completely or partially slatted floors. These animals have no access to the outdoors and will never experience fresh air or daylight. Only around 5% of Spain's pigs were kept free on straw litter.

Spain has the highest consumption of antimicrobials for animal farming in the EU. In 2014, one-third of all drugs used for food-producing animals in the EU were sold in Spain. The Spanish meat industry used 419 milligrams of veterinary antimicrobial agents per 1,000 tonnes of produced meat, around 3 times the amount used in Germany, and nearly 10 times that used in Denmark.

As more and more factory farm projects are announced around the country, including what would be the biggest dairy farm in the EU with more than 20,000 cows,²³ resistance is growing among communities that are suffering the impacts of this industry.²⁴ Thousands of people in rural areas of Spain lack access to tap water at home because of nitrate pollution. Spain has been breaking emission limits of ammonia for many years. There is an urgent need to rethink Spanish development of the pork industry, so that farming can again be an activity that supports rural communities, meets consumer demands, and respects the environment and labour conditions.

Denmark



KEY FIGURES

30 million pigs produced in 2019

52 kg of meat per person per year

Between 2007 and 2019, exports rose from 4.9 million to 15.2 million pigs per year

Farms producing more than 5,000 pigs grew from 198 in 200 to 940 today

80% of agricultural land used for feed production

Still one of the largest importers of soy

Denmark has the highest number of pigs per capita in the EU, with more than 30 million pigs produced per year. Danes eat an average of 52 kg of meat per person per year, a figure that has doubled in 50 years. Pork accounts for the largest share of meat consumption, at 29 kg per person per year.^{25,26}

However, the vast majority of pig and pork production in Denmark is for export. The number of slaughter pigs in Denmark is currently declining, while the export of pigs, especially piglets, is increasing— primarily to Germany. In the 12 years from 2007 to 2019, exports rose from 4.9 million to 15.2 million pigs per year.²⁷

The pigs are found mainly in Jutland, and the density is highest in West and North Jutland and Bornholm. Danish pig production is becoming concentrated in fewer and larger farms, with a considerable degree of specialisation and vertical integration. In 2000, there were 198 pig farms in Denmark with a production of 5,000 pigs or more. By 2018, that number had grown to 940.²⁸ Danish Crown is the world’s ninth largest meat company, Europe’s largest meat producer and the world’s largest pig exporter.²⁹ While increased production benefits a few companies, the consequences of production can no longer be ignored, at the local, national and global levels.

Denmark tops the EU statistics for the percentage of agricultural land used to feed animals, with about 80% of agricultural land used for feed production.³⁰ Yet, this land is not sufficient to provide fodder for the stock of pigs. Denmark is one the largest importers

of soy, especially from South America, of which 90% goes to pig feed.³¹ Soy production for Denmark occupies an area of land the size of Zealand, Denmark’s largest island.

Political backing for the industry makes it difficult to change the course of the industry, and stop the expansion of pig factories. Pig producers are given political and financial support to expand their operations, and many have become a regular industry, yet pig factory farms are still regulated as “agriculture”. A previous ceiling of 750 “animal units” per holding has been removed and now there are no limits, as the concept of “animal units” has been replaced with the unit of measurement “square meters of production area”.³²

In Denmark, “green subsidies” can also be awarded for the expansion of pig units (up to 25% of the total project costs),³³ despite the fact that this will increase the number of pigs, and therefore increase the climate impact of the operation.

It is very difficult at local and municipal level to resist the expansion of these pig factories, despite the consequences for the local population and environment. Since a change in legislation with the Livestock Act in 2017, it has not been possible for municipalities to take environmental, nature, neighbourhood and transport burdens into account when pig farms want to expand.³⁴ Several municipalities have complained.³⁵

The Netherlands³⁶



KEY FIGURES

Around 25 farms with more than 2,500 calves each

A total of 12.5 million pigs

6 or 7 million farrows exported each year

A production of 395 million chickens per year

63 farms have more than 1,500 goats each

Dairy cow farms are by far the biggest livestock farming sector in the Netherlands, which is mainly land based.³⁷ The number of around 16,000 farms is decreasing by an average of 3.5% per year. Male calves and redundant female calves born on dairy farms are used for the productions of calf meat (veal). The Netherlands is specialised in this field and the biggest producer of veal in the EU. There are 960,000 places for meat calves, of which 50% are occupied by calves imported from Germany, Ireland, Poland and the Baltic States. The number of around 1,500 meat calf companies is declining, but the number of animals per farm is increasing, and there are around 25 farms with more than 2,500 calves. This subsector works with a vertically integrated system, with 4 integrators (Van Driegroep, Veal Fine, Vitelco/PaliGroup, Fuite Veal). The beef cattle industry in the Netherlands is relatively small, and produces beef from dairy cattle that are no longer productive, and from suckler cattle.

There are around 4,000 pig farms (of which 157 have more than 7,500 pigs or 1,200 sows), which include breeding and meat pig farms, with a total of around 12.5 million pigs. The production of farrows exceeds the available space, and around 6 or 7 million farrows are exported each year. The number of companies in this subsector is also decreasing, while the number of animals per farm grows. The total number of pigs in the country is regulated by production rights.

The poultry sector includes meat chickens (broilers) and layers. Out of the 850 companies keeping laying hens, with a total of 35 million hens, 120 have more than 120,000 hens. The Netherlands is the second largest exporter of eggs worldwide after the US. Among the 600 broiler farms, there are 34 farms with more than 220,000 hens,

producing around 395 million chickens per year. In the poultry sector there is a slight decline in the number of animals, due to the introduction of diverse market concepts, related to sustainability.

There are around 530,000 goats of which around 350,000 are held at 365 specialized goat farms for milk production. 63 farms have more than 1,500 goats.

The main impacts of factory farming in the country are the problems of large quantities of surplus manure, excess of ammonia, nitrate and methane emissions, biodiversity loss (especially related to the nitrogen surplus), fine dust and smell nuisance in rural areas. A connection has been found between a reduced lung function and the amount of ammonia in the air, and living close to poultry farms and higher risk for lung infection.³⁸

Animal welfare and rights issues include (caused by housing and transport of animals) include increased incidence of disease, and the stress, exhaustion, dehydration, injuries, illnesses and even mortality linked to transportation.³⁹

Factory farms are major public health risks, such as the outbreak of human-animal diseases and increasing antibiotic resistance.⁴⁰ Goat farms were the source of the outbreak of a Q-fever epidemic in 2007-2010.⁴¹

Milieudefensie (Friends of the Earth Netherlands) has organised several campaigns against factory farming. In 2015 it called on the Dutch government to stop building new factory farms. This became a hot topic during the provincial elections and the issue reached some coalition agreements.⁴² Other NGOs including Wakker Dier (Awake Animal) have continued campaigning on the issue.⁴³

Poland



KEY FIGURES

14.6 million hectares of arable land

Cereals make up 71% of all crops

Farm numbers going down: 2.14 million of farms in 2000 to 1.4 million in 2017

The biggest farms make up 20% of all existing farms in Poland but are the recipients of 74% EU farm subsidies

30-50% of meat produced in Poland is exported

11 million pigs

Poland is an agricultural country, with 14.6 million hectares of arable land. According to the data from 2017 provided by Statistics Poland, the crop structure is as follows: cereals make up 71% of all crops, industrial crops make up 11%, and fodder crops make up 10%.⁴⁴

Joining the European Union resulted in significant changes in Polish agriculture, especially in the number and size of farms, the form of crop cultivation, and animal production. The number of farms has been in steady decline: from 2.14 million in 2000 to 1.4 million in 2017. The largest decrease was amongst farms that had 10 hectares of land or less (figures for 2002 to 2015).⁴⁵

Currently, the biggest farms (above 100 hectares), make up 20% of all existing farms in Poland, but are the recipients of 74% EU farm subsidies. In order to compete with the biggest farms on the market, the middle-sized farms (20-100 hectares) often adopt environmentally unfriendly practices to lower their production costs, such as simplified crop rotation, over fertilisation or reduction in liming. In order to develop a more sustainable agricultural system, it is vital that the Polish national agricultural policy addresses the middle-sized farms specifically.

Despite the substantial meat consumption, which averages 78.5 kg per person per year (of which about 40 kg are pork, 7 kg more than the EU average), about 30-50% of meat produced in Poland is exported.

The share of pork produced in large farms has increased from 7% in 2004 to 24% in 2016. In 2018, there were 11

million pigs in Poland, which meant that Poland was the sixth largest pork producer in the EU.⁴⁶ When it comes to poultry, the annual production averages nearly 2.5 million tons, of which $\frac{3}{4}$ is intended for export. The share of poultry produced on big farms has increased from 23% in 2004 to 30% in 2016.⁴⁷

Over 20 years ago, a proposal for an anti-odour act was submitted to the Polish Parliament. This act would regulate, amongst other things, the distance between residential areas and animal farms. Unfortunately the act has still not been implemented, due to the influence of meat producer lobby groups. This is testament to the power of meat producers, and the support of the Ministry of Agriculture – which is promoting the expansion of agricultural exports. Few NGOs are engaged in the issue, with the exception of the Otwarte Klatki (Open Cages) association, who are focused on industrial chicken farming, and Greenpeace and WWF who have released reports on industrial farming.⁴⁸

Air pollution

Factory farms release more air pollutants and in higher concentrations than small and medium-sized farms.⁴⁹ They raise a larger number of animals in a confined setting and produce significantly more manure. This manure emits a range of toxic pollutants, including respiratory irritants such as ammonia (NH₃), hydrogen sulphide (H₂S) and particulate matter.⁵⁰

Ammonia emissions strongly contribute to fine particulate matter (PM_{2.5}) pollution, and premature human mortality.⁵¹ Manure from livestock farming is responsible for more than 70% of the emissions of ammonia in Europe.⁵² Countries with the largest number of (intensive) animal farms including Germany, France, Poland, Italy and The Netherlands are among the largest emitters of ammonia.⁵³

The EU National Emission Ceilings Directive (2016/2284/EU) has obliged all member states to reduce ammonia emissions by 6% relative

to 2005 levels by 2020, yet areas where factory farms are expanding have faced problems controlling emissions.⁵⁴ Spain has broken the ammonia emission limit for nine years in a row.⁵⁵

Research in The Netherlands has shown that living near factory farms can affect lung function, and increase the risk of lung infections.⁵⁶ Research by the Max Planck Institute for Chemistry shows that agriculture (and especially factory farming) contributes around 45% of the fine particle emissions (PM_{2.5}) in Germany that lead to 120,000 premature deaths from cardiovascular disease.⁵⁷ Evidence from the US has also shown that people living near factory farms have an increase in childhood asthma rates,⁵⁸ report experiencing health symptoms such as eye and throat irritation, nausea, vomiting and breathing problems,⁵⁹ and have a diminished quality of life from being forced to stay indoors and keep their windows closed.⁶⁰

Manure from livestock farming is responsible for more than 70% of the emissions of ammonia in Europe.⁵²





Water pollution

Animal manure has always been used as a fertiliser on cropland and grazing fields, but factory farms produce more manure than nearby fields can absorb.⁶¹ The resulting release of nitrates into the water supply can result in negative impacts on human health and the environment, such as groundwater pollution and the loss of habitats and biodiversity.

Reactive nitrogen is an important nutrient for plant growth, but too much of it drives biodiversity loss through eutrophication and acidification. Faster-growing species that can rapidly assimilate nitrogen and acid-tolerant species are favoured over nutrient-poor species. Biodiversity loss at the plant and habitat level can affect biodiversity of insects and other animals dependent on those plants and habitats.⁶² The European Commission recognises that large numbers of livestock concentrated locally or regionally pose high risks to the environment.⁶³

Nitrates are the main pollutant of European groundwater, affecting

over 18% of the area of groundwater bodies.⁶⁴ In 2015, 61% of the EU's agricultural area was designated "Nitrate vulnerable zones", areas at risk from agricultural nitrate pollution under the Nitrates Directive (91/676/EEC).⁶⁵

In areas where factory farms are concentrated, they have been directly linked to nitrate pollution of local drinking water supplies.⁶⁶ In Catalonia (Spain), a region with more than 8 million pigs in factory farms,⁶⁷ local authorities reported that nitrate pollution exceeded the regulatory limit in 41% of groundwater tables, and more than 100,000 people had problems of access to drinking water between 2010 and 2014. In Denmark, 32.7% of groundwater stations in the country recorded values over 25 mg/L (with 16.6% recording figures above 50 mg/L), impacting nearly 300,000 people in 2012.⁶⁸ Across the whole of the European Union, several million people are potentially exposed to drinking water with nitrate concentrations above recommended levels.⁶⁹

The "polluter pays" principle is not being applied to factory farms. Pollution is cleaned up using taxpayers' money, or increasing the water charges that citizens pay. The Catalan regional government spent more than €6 million per year to provide drinking water to the affected population.⁷⁰ German studies show that in municipalities where the nitrate concentrations are above the legal limit, the annual basic fee for households is more expensive than in municipalities with lower nitrate concentrations.⁷¹

Manure also carries chemical additives, pathogens like *E. coli* and antibiotics.⁷² These contaminants can reach waterways through surface runoff, spills, groundwater leaching and direct discharges.⁷³ Manure application contributes to outbreaks of waterborne diseases in rural areas.⁷⁴

Credits: United States Department of Agriculture - Natural Resources Conservation Service



In 2015, 61% of the EU’s agricultural area was designated “Nitrate vulnerable zones”, areas at risk from agricultural nitrate pollution under the Nitrates Directive.



**Pandemics,
animal
epidemics
antibiotic
resistance**

Virus threats from influenza viruses such as H1N1 (swine flu) or H5N1 (bird flu) evolved on chicken and pig factory farms.⁷⁵ Genetic analyses have shown that crucial components of H1N1 emerged from a virus circulating in North American pigs. Commercial poultry farms appear to be the most important site for the mutation of novel viruses that can prove deadly. Of the 39 antigenic shifts that we know played a key role in the emergence of 16 particularly dangerous strains of influenza, research has proven that “all but two of these events were reported in commercial poultry production systems”.⁷⁶

Epidemics are also affecting pig populations worldwide, including African Swine Fever, Porcine epidemic diarrhoea and “Blue ear” or Porcine Reproductive and Respiratory Syndrome Virus which first emerged in the factory farms of the US and Europe in the 1990s, killing millions of pigs when it spread to China and Vietnam in 2007-2008. When the pig industry is confronted by an epidemic, small farmers are hit the worst, livelihoods are lost and millions of pigs die or are culled. As a result, the price of pork soars, and large animal processing companies gain.⁷⁷

Antibiotic resistance

For decades, the livestock industry has used drugs (including antibiotics) routinely, not to treat sick animals, but for disease prevention and growth promotion. This practice is known as non-therapeutic use. The EU phased out the use of antibiotics for growth promotion, but the drugs are still being used as a prophylactic treatment to prevent diseases caused by the overcrowded and stressful conditions.⁷⁸

The agriculture sector uses vastly more antibiotics than human medicine.⁷⁹ In the United States, with its massive factory farming industry, 80 per cent of all antibiotics are sold for agricultural purposes. In 2017, 89.4 per cent of antimicrobial veterinary medicinal products used in the EU/EEA and Switzerland were for group animal treatment which are integrated directly into the feed, or are added to the feed or water directly on the farm. Group medication is used mainly in poultry and pig factory farms.⁸⁰ This is a common practice in densely packed and unsanitary concentrated animal feeding operations.⁸¹

Antibiotics are critical tools in human medicine. But medical authorities are warning that these life-saving drugs are losing their effectiveness due to overuse. The development of antibiotic resistance is hastened by the use of low doses of antibiotics on factory farms. The routine feeding of antibiotics to livestock results in microbes evolving

antibiotic resistance. Workers exposed to these pathogens can become sick, and spread the disease within their communities. Disease resistant bacteria can also spread through preparation of contaminated raw meat, and the pollution of water by manure.⁸² This is not only problematic for the treatment of people with bacterial diseases, but also for treatment of people with diseases caused by viruses, which are often accompanied by bacterial infections. Three studies on Covid-19 patients conclude that antibiotics were prescribed for 90% of patients to treat the accompanying bacterial infections.⁸³

Antimicrobial resistance causes 33,000 deaths in the EU every year and an annual cost of €1.5 billion in healthcare costs and productivity losses. If resistance continues to grow at the current rate, by 2050 more than 10 million people could die worldwide from infections that previously could have been treated by antibiotics.⁸⁴

Animals do not need routine antibiotics to stay healthy. Organic and higher welfare systems use antibiotics sparingly, and only when animals need it. Livestock should - and can - be kept healthy through good husbandry and welfare, rather than through “bought-in” immunity.

Antimicrobial resistance causes 33,000 deaths in the EU every year and an annual cost of €1.5 billion in healthcare costs and productivity losses.

https://ec.europa.eu/health/amr/antimicrobial-resistance_en



Worker safety in the meat processing industry

In the EU, around 1 million people were employed in the meat processing industry in 2011. The sector is under immense pressure to reduce its costs and compete at a European and global level. Labour is a key component of cost for the meat processing industry, which puts pressure on the working conditions and wages in the sector. There are no clear figures on the average income of slaughterhouse workers. However, a study by the European Federation of Agricultural, Food and Tourism Trade Unions (EFFAT) from 2011 gives an impression of how Germany benefits from the work of Eastern European temporary workers: at that point, employees in slaughterhouses in Denmark earned an average of €25 per hour, in France €9 to €12, and in Germany around €7. The hourly wages from Romania and Bulgaria were unknown, but EFFAT assumes that they were lower than the Polish hourly wages of €3 to €6.⁸⁵

As well as keeping wages low, employers regularly cut corners with health and safety, including increasing the speed of processing lines which leads to an increase in injuries and deaths.⁸⁶ Studies from the US show injury and illness rates at

slaughterhouses and processing facilities are higher than the rates for the overall manufacturing sector.⁸⁷ In the EU, the use of low-paid and (undocumented) migrant labour is also widespread. Working conditions in Europe's slaughterhouses have been reported as "modern slavery" in several European countries.⁸⁸ The Covid-19 pandemic has shone a spotlight on a long standing problem with poor working conditions in the sector. Workers are often shoulder-to-shoulder, and most workers have not been supplied with proper personal protective equipment.

In the US, Spain, Germany, The Netherlands, Ireland and Wales, working and housing conditions in slaughterhouses are likely to have contributed to the spread of Covid-19, as social distancing is impossible.⁸⁹ The infection level at the Tönnies factory in Germany reached such a high level that the municipality had to first close the schools and later ordered a second lock-down in the district to protect the local population of further infections.⁹⁰ Transport to the factories and poor living conditions of workers (with inadequate or overcrowded sleeping, cooking and sanitation facili-

ties) are also likely to have played a role.⁹¹ Yet giant meat companies are pushing to keep plants open (and reopen plants where workers are infected) by stoking fears of food shortages. Forcing sick workers to process our food is risking their lives and our public health.



Credits: United States Department of Agriculture

In the US, Spain, Germany, the Netherlands, Ireland and Wales, working and housing conditions in slaughterhouses are likely to have contributed to the spread of Covid-19. Transport to the factories and poor living conditions of workers are also likely to have played a role.



Working conditions on factory farms

While conditions in EU abattoirs and meat processing plants are well documented, conditions on factory farms are less well researched. However, examples from the US show that factory farms are an unhealthy and stressful work environment. Workers there face increased exposure to air pollutants produced at factory farms – including particulate matter carrying mould, animal dander and pathogens. Exposure to air pollutants can lead to respiratory issues, with up to one-quarter

of workers on pig factory farms suffering from chronic bronchitis.⁹² Workers also suffer the same health impacts as nearby community members from the hydrogen sulphide, ammonia and other pollutants produced by decomposing manure. At times, toxic emissions from manure pits can exceed lethal levels and have caused worker deaths.⁹³ Factory farm workers are also injured through accidents involving animals and machinery, and exposure to toxic pollutants.⁹⁴

The concentration of agricultural chains: a lose-lose situation for consumers and farmers

The European meat sector is dominated by a number of companies who are increasing in size through mergers and acquisitions, expanding across borders and in some cases across species. As mentioned above, production itself is also intensifying, with larger factory farms producing a larger percentage of our meat. This situation is bad news for smaller farmers and processing companies, since it tends to force down prices, and many farms and abattoirs have gone out of business.⁹⁵

A few European-based transnational companies are also gaining ever-increasing control over global intensive meat production. The French company Cooperl Arc Atlantique breeds, slaughters and sells pigs, with branches in Beijing and Moscow, under the slogan "360° Pig chain profitability".⁹⁶ Groupe Bigard owns half of all the slaughterhouses in France. It processes beef, mutton, and pork.⁹⁷ The Danish Crown group is among the largest meat processing companies globally. They are the world's largest pork exporter and Europe's

largest pork processor, as well as the largest meat processing company in Denmark and a growing player in the beef market.⁹⁸

Vertical integration is a key element of the factory farming model that is being imported to Europe from the US, with a small number of companies controlling the production, processing, distribution and sale of meat.

Wages and working conditions in the sector are falling. There has also been a shift to larger slaughterhouses that do not purchase animals from small or independent operators on the open market, and the closure of smaller slaughterhouses that are able to deal with smaller-scale farms. In response, some producers have turned to contracts with meat companies to be able to continue farming.⁹⁹

In vertically integrated systems, agribusinesses (the integrators) contract with growers or producers to raise birds or livestock. The companies own the animals, set the terms of the contracts and dictate all aspects of

raising the animals, from the design of the buildings that they are confined in, to the feed that they eat. The producers must invest in whatever infrastructure the integrators require (often taking out huge loans) and dispose of the enormous amount of waste generated.¹⁰⁰ Producers are paid by the live weight of the finished livestock, meaning that they bear all the risks, while the agribusinesses capture the profits.¹⁰¹

Some integrators in the USA use a "tournament" system to determine the price of meat, paying growers based on how their performances compare to each other. Contracts between growers and integrators are often short-sometimes just "flock to flock," meaning that integrators are under no obligation to continue the contract after the current flock is gone – and companies might refuse to renew contracts if livestock prices lag or the grower has fallen out of favour.¹⁰² This leaves growers with crushing debts that they cannot repay.



A few European-based transnational companies are also gaining ever-increasing control over global intensive meat production.

Producers also lose their economic independence when they enter into contracts, going from being independent small business owners to being contractors beholden to large corporations.¹⁰³ In 2012, contract growers produced 44% of all pigs and 96% of all broiler chickens in the United States.¹⁰⁴ In the EU, Spain is the country where the vertical integration

of pork meat production is moving fastest, with around 80% of its production under this model.¹⁰⁵ By 2012, 55% of the commercial value of pork in Germany was in the hands of the four biggest slaughtering companies operating in the EU (Danish Crown, Tonnies, Vion and Westfleisch). As many as 42% of German pig producers went out of business between

2001 and 2009 during a period of rapid consolidation.¹⁰⁶ France has over 75% of poultry meat production in the hands of the top 5 five companies. In Germany the top 5 firms have over 66% of the market, and in the UK over 60%.¹⁰⁷



The global impact of Factory Farms

The EU is highly dependent on imports of soy for factory farmed animals, where feed has to be brought in on an industrial scale. The EU annually imports 13 million tonnes of soy protein, equal to 30 million tonnes of soybean equivalent.¹⁰⁸ Approximately 95% of soy imports are destined to feed animals for meat, eggs and dairy products.¹⁰⁹ Growing crops to feed cattle is highly inefficient, resulting in significantly fewer calories than producing crops for direct human consumption. For example, North American production systems use an estimated five and a half calories of feed crops to produce just one calorie of animal products.¹¹⁰

Global soybean production is booming, and has increased over tenfold in the last fifty years, from 27 to 350 million tonnes.¹¹¹ 75% of all soy production is used to feed factory farmed animals.¹¹² The global area cultivated for soy has grown from under 30 million hectares in 1970 to over 100 million hectares in 2012, and is projected to reach 141 million hectares in 2050, if meat consumption continues increasing.¹¹³

The expansion of industrial soy agriculture has led to the loss of millions of hectares of forest, savannah and grassland. Soy plantations continue to threaten primary forests and rainforests such as the Amazon, Atlantic Forest and Chiquitano Dry Forest, as well as the tropical savannah of the Cerrado, the hot and semi-arid Gran Chaco, the Argentine Pampas and Uruguayan Campos.¹¹⁴ This expansion is destroying communities, biodiversity and ecosystems, and contributing significantly to climate change. Genetically modified soy requires large quantities of herbicides, which exhaust the soil and lead to freshwater and groundwater contamination, causing health problems and killing wildlife.¹¹⁵ Land-grabbing for soy plantations is depriving local communities of their right to food, water, housing and work. These serious environmental and human rights impacts are particularly felt in Brazil, Argentina and Paraguay which are among the largest soy producers.¹¹⁶

Human rights abuses are widespread as small farmers are forcibly removed and sometimes assassinated during land grabs for soy plantations. In Paraguay alone 129 campesino leaders have been victims of extrajudicial executions, and thousands of farmers have been imprisoned, in the context of the struggle for land since the end of the dictatorship in 1989.¹¹⁷

The soy trade and so-called “predatory agribusiness” play a powerful role in the politics of the South American producer countries, causing great harm to the environment, indigenous peoples, and rural workers.¹¹⁸ Global Witness has identified agribusiness as one of the most dangerous sectors for Environmental Human Rights Defenders to oppose, with 40 killings in 2017 linked to agribusiness.¹¹⁹ In 2018, 21 Environmental Human Rights Defenders were killed in conflicts linked to agribusiness, with the soy industry directly linked to threats made against human rights monitors.¹²⁰



The expansion of industrial soy agriculture has led to the loss of millions of hectares of forest, savannah and grassland.

Climate change



Credits: United States Department of Agriculture - Natural Resources Conservation Service

Human-induced climate change has already increased global temperatures by 1°C above pre-industrial levels.

Livestock production contributes 14.5% of all greenhouse gas emissions originating from human activity.¹²¹ Almost half (45%) of all livestock-related emissions comes from producing and processing feed, including deforestation linked to expansion of pasture and feed crops. Methane emissions, from digestive processes in ruminants like cattle, contribute a further 39%, and manure storage and processing contribute 10%.¹²²

The latest climate science highlights the fact that we must begin taking bold action now, if we are to have any chance of limiting global increases

in temperature to below 1.5°C, and avoid the worst impacts of climate change.¹²³ This will require far-reaching action on many fronts, including reducing meat consumption, and changing the way that animals are raised. Without a rapid transition away from factory farming, we will not avoid climate catastrophe.

In small livestock and poultry systems, farmers can spread solid manure on nearby fields that provide grazing pasture or animal feed, potentially reducing emissions from liquid manure storage. These benefits are lost when there is more waste than nearby fields can handle and the manure instead ends up being stored or transferred off-site.¹²⁴

An emerging body of evidence shows that smaller farms and grass-fed operations may have lower greenhouse gas emissions compared to factory farms. A review of over 900 studies found that increasing cattle's intake of digestible feed can reduce methane emissions that occur during enteric fermentation. It also notes that manure from grazing cattle releases lower levels of methane than confined cattle.¹²⁵ Research indicates that organic livestock systems may have a slightly lower global warming potential because their feed is grown without synthetic fertilisers and is less processed.¹²⁶ Finally, converting crop fields to grazing pasture may increase soil carbon sequestration, potentially turning livestock systems into net carbon sinks, although the data are mixed.¹²⁷

Solutions, conclusion and recommendations

In order to resolve the problems with the current animal farming system, a radical transition in the way that we produce, distribute and consume our food is necessary. Food systems (including animal farming, animal product processing and distribution) must be reoriented around multiple economic, social and environmental objectives.

The corporate capture of food and agricultural markets, controlled by multinational corporations for their own benefit, must be challenged. The concentration and specialisation of farming (including the expansion of factory farming) needs to stop.

A more diversified animal-plant farming model of production needs to be advanced. This allows producers greater decision-making autonomy and higher profit margins, enabling them to make a decent livelihood

whilst providing healthy and nutritious food to local and regional markets,¹²⁸ and performing other vital social services such as protecting and restoring biodiversity, building fertile soils, maintaining rural landscapes and protecting against soil erosion and flooding.

There are many diverse examples in Europe of alternative production systems which are more sustainable on economic, environmental, social and nutritional grounds.¹²⁹ There are also thousands of initiatives crea-

ting direct links between farmers and consumers through Community Supported Agriculture.

Advancing agroecology is essential for this transition. The principles of agroecology focus on investing in local knowledge and natural resources, including traditional livestock breeds and seed varieties, thereby removing or reducing the necessity for external inputs such as commercial seed, agrochemicals or antibiotics use, and dependence on animal feed from abroad.





Credits: BESH



Advancing agroecology is essential for this transition. The principles of agroecology focus on investing in local knowledge and natural resources, including traditional livestock breeds and seed varieties, thereby removing or reducing the necessity for external inputs such as commercial seed, agrochemicals or antibiotics use, and dependence on animal feed from abroad.

Agroecology within the broader framework of food sovereignty offers a pathway through which to guide the necessary sustainable food system transition, whilst accounting for and embracing this diversity.

Any truly sustainable transition will also inevitably involve shifting EU dietary and consumption patterns. This does not necessarily mean eating less, or becoming vegetarian. It simply means eating fresh, local and sustainably produced food, and more plant-based food. It also means shifting away from diets reliant on commodity crops, such as processed foods containing palm oil, and industrially produced meat and dairy products fed with imported soybeans or other commodity feedstocks.

This will not mean the end of international trade - some products of course cannot be produced within the EU. However, the terms of trade will have to be altered in such a way as to promote food sovereignty and ecological and social wellbeing in producer regions. Ultimately this will be of benefit to ecosystems, human health and the economy both at home and abroad.

It is not possible to achieve the change towards a more sustainable food system, while factory farming dominates the market. Banning factory farming and reducing the number of farmed animals in the EU is needed to create the space for these alternatives to develop.

EU institutions should:

- › Publicly acknowledge the need for action and introduce concrete measures to reduce production and consumption of industrial meat and dairy farming;
- › Stop the direct and indirect support for industrial livestock production through CAP subsidies, and instead support sustainable small-scale livestock producers and other actors in the food chain involved in processing and marketing of animal products;
- › Introduce mandatory labelling showing the production system of all animal products;
- › Develop a plan to support improved, public, decentralised slaughterhouse facilities, as well as restructuring the infrastructure for processing, storage and marketing of animal products;
- › Reinforce environmental and food legislation to stop the damage of industrial livestock production, including implementation of the Water Framework Directive and the Nitrates Directive;
- › Renegotiate ratified international trade agreements to eliminate trade of products that contribute to, or directly or indirectly incentivise, deforestation, degradation or conversion of natural ecosystems; and not sign new ones who would lead to this;
- › Renegotiate existing and ongoing trade deals, to reduce the trade of meat products from animals that can be produced locally;
- › Oppose new or existing trade agreements that would weaken social, environmental, animal welfare and food safety standards for the production of meat in the EU, or in countries from which the EU is importing meat;
- › Introduce clear green food procurement standards to ensure that meals paid for by the public purse reflect environmental and health factors, relying on less but better meat and dairy;
- › Place legally binding restrictions on feed imports, such as soy, that are linked to deforestation and rights violations;
- › In the short term, drastically improve the working conditions of farm, slaughterhouse and processing plants workers, by ensuring access to decent housing, healthcare and relevant safety measures. Migrants and refugees should have access to obtaining and renewing their residence permits without any obstacles and need to be offered fair income;
- › Develop an EU transition fund for workers at factory farms and the meat industry to shift into more sustainable jobs;
- › Reduce the use of antibiotics in animal farming by 50% by 2030.

It is not possible to achieve the change towards a more sustainable food system, while factory farming dominates the market. Banning factory farming and reducing the number of farmed animals in the EU is needed to create the space for alternatives to develop.

EU Member States' and regional governments should:

- › Acknowledge the need for urgent action;
- › Place a ban on new and expanding factory farms;
- › Phase out existing factory farms by 2040;
- › Ensure that the implementation and reform of the CAP is in line with these recommendations;
- › Remove indirect support in national exemptions for constructing large-scale livestock operations;
- › Ensure the correct implementation of existing environmental and food legislation, to stop the damage of industrial livestock production, including implementation of the Water Framework Directive and the Nitrates Directive.

In relation to the CAP:

- › Remove subsidies for industrial livestock production and set maximum stocking density in CAP conditionality;
- › Include leguminous crops in the crop rotation definition in the enhanced conditionality for direct payments to farmers;
- › Remove untargeted direct payments or support for short rotations, intensive animal farming and other practices that effectively lead to landholding concentration; and ensure that these practices are not promoted outside the EU;
- › Support diverse agroecological farming methods, crop rotation and diversification practices that involve the cultivation of legumes and mixed farming systems;
- › Create short supply chains from farm to fork at fair prices for farmers, agricultural workers and other food chain workers, and citizens, e.g. through eco-schemes;
- › Provide a grant fund under Pillar II to assist farmers in diversifying away from intensive animal farming to the production of grass-fed animals, locally or regionally produced protein crops for animal feed, and protein crops for human food;
- › Ensure non-GM leguminous seed availability at fair prices, and recognise this as an opportunity to encourage the ecological production of pulses and legumes for human consumption and their marketing in the value chain, and support research into their use in animal feed;
- › Provide higher funds under Pillar II for the development and raising of local animal breeds in a sustainable way;
- › Provide a grant fund under Pillar II to support improved, decentralised facilities for seed selection and development, processing, storage and marketing of local and regional legume crop varieties.

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