



Slow Food®

BEYOND WELFARE: WE OWE ANIMALS RESPECT

Slow Food's Position Paper on Animal Farming
2022

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INTRODUCTION

"Today [farm] animals are often mass-produced in factory-like facilities, their bodies shaped in accordance with industrial needs. They pass their entire lives as cogs in a giant production line, and the length and quality of their existence is determined by the profits and losses of business corporations."

Yuval Noah Harari¹

INTRODUCTION

For more than 10,000 years, domesticated animals have lived alongside us. First dogs, then goats, sheep and cattle: All have shared their life on Earth with humans for millennia. These animals would now be unable to live freely in nature, because they are smaller than their wild cousins, lacking claws and sometimes horns, not particularly fast or agile, unable to climb, docile and tamed. However, they have survived the inexorable natural selection process to become much more numerous than their wild counterparts, because humans domesticated, protected, fed and cared for them. Humans helped them survive in exchange for their labor in the fields, for transport, for their wool to cover them and keep them warm and their milk, eggs and meat to eat. People selected animals over time to have more productive, specialized breeds, adapted to specific local areas, with the aim of preserving them and increasing their number.

Does this work of selection and protection allow us to consider domesticated animals our property?

In other words, do animals have rights? And what obligations do humans have towards animals?

These are not simply rhetorical questions. Based on the responses that we give to these questions, we define the level of welfare that we are willing to grant domesticated animals, and whether or not we can justify their slaughter. These are questions that also concern wild animals, or the animals we use for human entertainment, in circuses, in sports, though in a different way.

J.M. Coetzee, winner of the Nobel Prize for Literature and a strong advocate for animal rights, gives these words to the character of his alter ego, Elizabeth Costello: "In the olden days the voice of man, raised in reason, was confronted by the roar of the lion, the bellow of the bull.

Man went to war with the lion and the bull, and after many generations won that war definitely.

Today these creatures have no more power. Animals have only their silence left with which to confront us."²

The silence of prisoners, she adds.

Prisoners. That is the status we have given to harmless domesticated animals. Even wild animals, even the most reactive ones, face the same threat.³ The word prisoners immediately brings to mind intensive factory farms, with thousands of animals, often shut in cages, deprived of any liberty and experiencing great suffering throughout their lives. Millions of animals raised for our food, live in similar conditions. Even though laws have indisputably recognized that animals can feel emotions and have the right to be free of suffering, fear, anxiety and hunger, animals still have no rights in many farms around the world. Would it be better to completely stop animal farming? Such a radical step would involve the extinction of entire species and breeds, which exist only to serve human dietary and agricultural needs. Crop growing, inextricably linked to animal farming, would have to be supported by an immense use of chemicals in order to be sufficiently productive.

Territories grazed for centuries would lose their biodiversity because the richness of wild plant species, wild avian species and even the life in the subsoil is enriched by ruminants. The balance of the whole ecosystem would be affected. The cultural heritage and identity of many communities would be

¹ Yuval Noah Harari, "Sapiens" (Random House, 2011)

² J.M. Coetzee, "The Lives of Animals" (Princeton University Press, 1999)

³ IPBES Global Assessment Report on Biodiversity and Ecosystem Services (2019)

lost, both in the West and among pastoral peoples in the Global South. Paradoxically, doing away with farmed animals would take us further away from nature, at a time in history when we should instead be moving closer towards nature and reconciling with it, by giving it respect and care.

What we absolutely need to do now, however, is drastically reduce our consumption of meat. We need to find a different way of farming livestock, based on a more acceptable relationship with animals, by ensuring that they have lives worthy of being lived, as close as possible to the original conditions of their species, and giving them an unconscious death.

We must move on from the total indifference that humanity has shown for centuries towards the condition of animals, and which is finally now crumbling. A new feeling of unease is stirring deep in collective attitudes, united with a growing anxiety about the animal world. We are talking only about a part of the population, but the paradigm shift is nonetheless visible, and growing. This change needs to be promoted and supported by everyone who, like Slow Food, believes that the living and farming conditions of animals destined for human consumption must radically improve.

It is time to give animals respect.

We prefer to use the word respect, which we think is more appropriate than “animal welfare,” a misused term that often attributes animals with human feelings, observing their lives through eyes that are inevitably alien.

Appeals and campaigns calling for stricter laws are not enough: We need to translate this growing unease into conscious awareness. We need to act, to make choices. The future of the relationship between humans and animals must not be based on fundamentalist attitudes but on a strong, shared approach guided by respect and empathy. We need to find the courage not to turn away and pretend not to know what happens to the animals we farm for our food.

Piero Sardo

President of the Slow Food Foundation for Biodiversity

We have written this document to summarize the position of our movement on animal husbandry in its many aspects and implications: environmental, health, social, ethical, regulatory and cultural. We outline the practices that we want to promote and safeguard with our projects. We have not dealt with aspects related to the welfare of fish or bees in this document, but endeavor to do so in future updates.

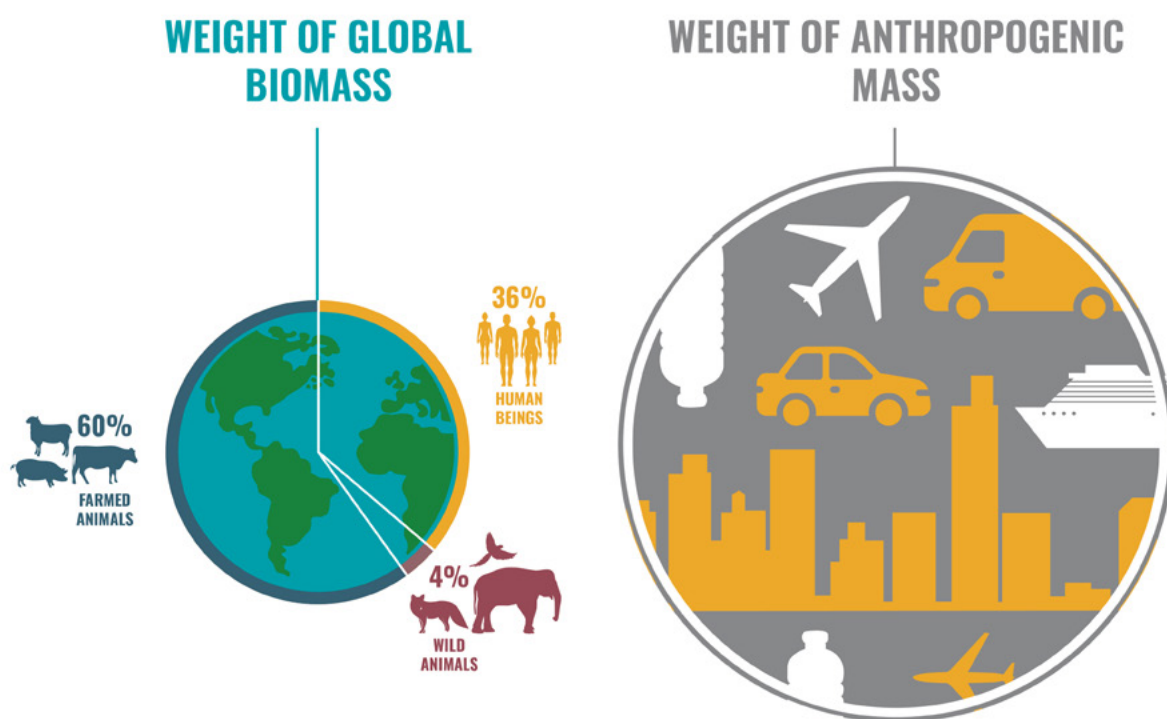


UNSUSTAINABLE CHOICES

Humankind is the driving force molding the face of Earth. Ever since the Agricultural Revolution, 12,000 years ago, half of the trees on the planet have been cut down. In the early 20th century, the mass of bricks, gravel, construction material, cars, and human-made material in general, the so-called anthropogenic mass, amounted to 3% of the Earth's biomass, and more than 100% by 2020.

The anthropogenic mass has doubled nearly every 20 years in the last 100, and this trend will have an increasingly high impact in the future, to the extent that it will be over three teratonnes, almost three times the global biomass. The mass of plastic objects alone now outweighs that of all marine and terrestrial animals.

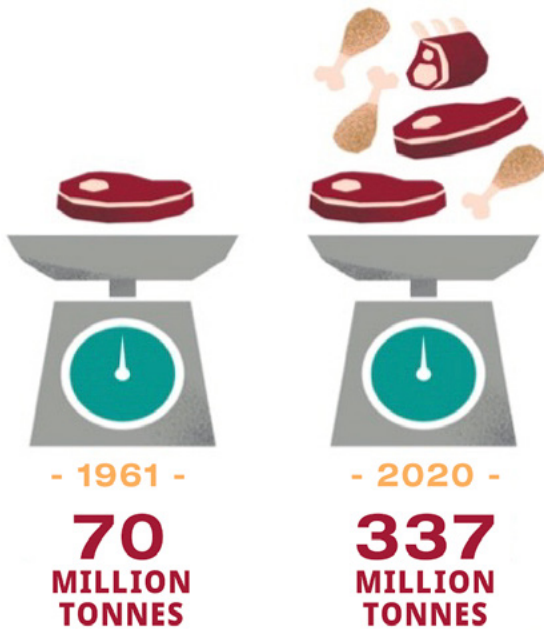
The scientists who performed this calculation also considered the proportions among mammals on the planet; the class humans belong to. Farm animals account for 60% of mammal biomass, humans for 36%, and all wild mammals, from lions to mice, account for just 4%.⁴



In other words, almost two thirds of mammal biomass is represented by animals grown for meat and dairy. Demographic growth has also resulted in a higher demand for meat, whose production has quintupled in the last sixty years. This trend is destined to continue, and not just for demographic reasons, but also because improving economic conditions in many parts of the world are accompanied by a “westernization” of diets.

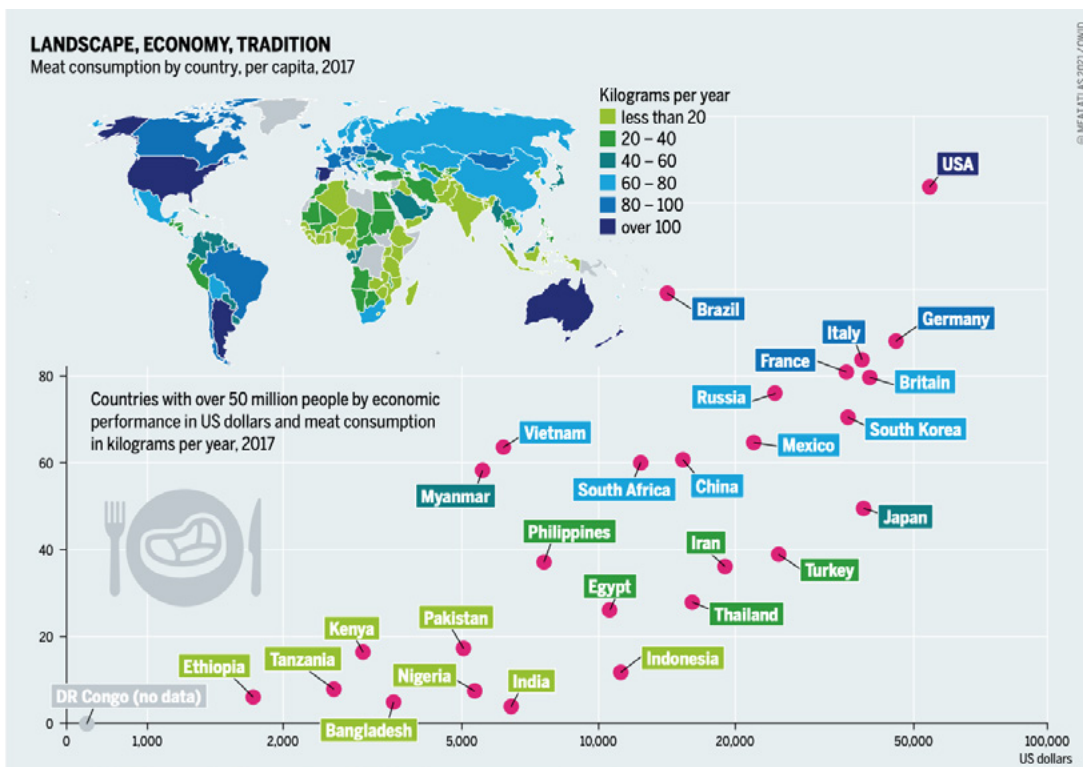
⁴ E.Elhacham, L. Ben-Uri, J. Grozovski, Y. Bar-On, R.Milo (2020) [Global human-made mass exceeds all living biomass](#)

Global meat production 1961-2020⁵



Meat is most consumed in industrialized countries. The largest consumer of meat is the USA, at over 100kg per capita annually, followed by European countries (which consume, on average, 80kg per capita)⁶, though Chinese consumption is forecast to rise dramatically. Annual consumption is 60kg in China now, 15 times higher than it was in 1961⁷, and Chinese meat production will likely see the largest increase in the future. Consumption in developing countries is lower but is expected to increase fourfold by 2028⁸.

Global per capita meat consumption⁹



5 H. Ritchie, M.Roser (2017). *Meat and dairy production*, Our world in data

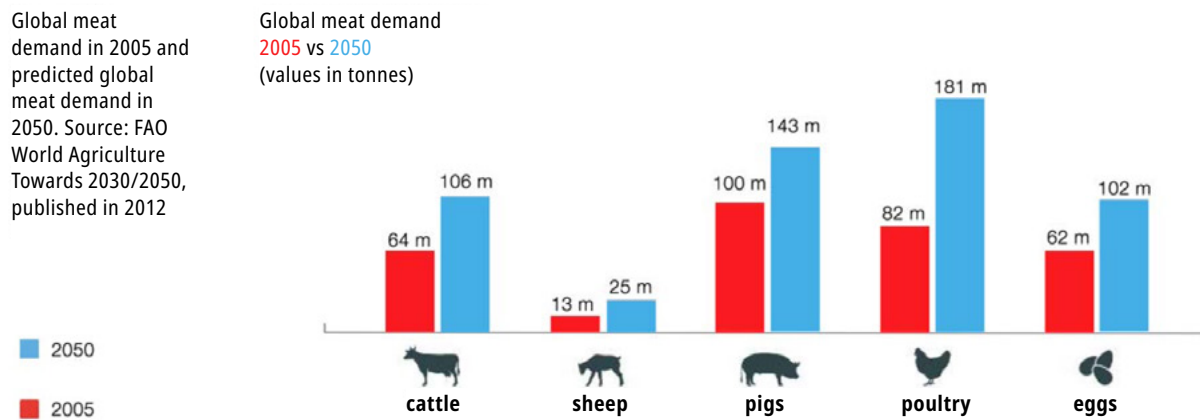
6 Heinrich Böll Stiftung, Friends of the Earth Europe, Belgium Bund für Umwelt und Naturschutz, (2021) *Meat Atlas. Facts and figures about the animals we eat.*

7 H. Ritchie, M.Roser (2017). *Meat and dairy production*, Our world in data.

8 Heinrich Böll Stiftung, Friends of the Earth Europe, Belgium Bund für Umwelt und Naturschutz, (2021) *Meat Atlas. Facts and figures about the animals we eat.*

9 Ibid.

As the world population is expected to reach 9.6 billion by 2050, the demand for dairy and meat products is expected to rise by 74 and 58%¹⁰ respectively. According to the FAO, poultry will account for 41% of all animal-origin protein consumed by 2030, as it is cheaper and perceived as healthier¹¹.



Current farming systems will soon be unable to produce enough food to feed the enormous numbers of domesticated animals we raise. One third of global agricultural land is used for grazing livestock already¹². The climate crisis will reduce the quantity and nutritional quality of yields in the decades to come¹³.

Though traditional pastoral systems are still the foundation of several rural economies, globally more than 70% of poultry, 50% of pork, 40% of beef¹⁴ and 60% of eggs come from large-scale intensive farming¹⁵.

The industrial system has crushed small breeders, many of whom live and work in extremely hard conditions in marginal areas, where their job is to help maintain local animal and plant biodiversity.

“Concentration” in animal farming has been a global trend for many years now, i.e. the number of farms is decreasing, but the number of farmed animals is on the rise.

10 H.P.S. Makkar (2018). Review: Feed demand landscape and implications of food-not feed strategy for food security and climate change

11 OECD/FAO 2021. OECD-FAO Agricultural Outlook 2021-2030. 6.Meat

12 FAO (2012) Sustainable pathways. Livestock and landscapes.

13 IPCC (2019). Climate Change and Land An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems

14 CIWF (2013). Strategic Plan 2013-2017 for Kinder, Fairer Farming Worldwide

15 <https://www.ciwf.org.uk/farm-animals/chickens/egg-laying-hens/>

Some Numbers

- China is at the forefront in this concentration. Nowadays, 40% of China's pigs are reared in pig breeding farms with over 1000 animals, and there's a single pig farm which breeds over 30 million animals a year (equal to 20% of all the pigs bred annually in the USA)¹⁶. More than a quarter of the milk produced in China comes from just 25 farms which each have some 68,000 cows¹⁷.
- Three quarters of the European Union's livestock is reared on large farms¹⁸. The number of animals reared on such farms soared from 84 to 94 million in the period from 2005 to 2013. In the same period of time, over 3 million small-scale farms closed¹⁹.
- CAFO (who do not perform any other agriculture but feed their animals with external inputs) with 1,000-head-or-greater capacity are less than 5 percent of total feedlots, but they market 80–85 percent of fed cattle. Feedlots with a capacity of 32,000 head or more market around 40 percent of fed cattle²⁰.

What is the main characteristic of intensive farming?

- This highly specialized system focuses on one single animal species. In the past, diversification was the general rule, with several species being bred on farms that also cultivated crops;
- Just a few selected breeds are farmed thus ensuring high yields with lower running costs;
- Animal reproduction is based on a type of semen that only a handful of corporations own, thus allowing them to control genetic selection;
- Hormone-based growth promoters are used in order to reduce running costs, grow animals faster and increase profit margins;
- Many animals in restricted spaces, with no opportunity to fulfill their ethological needs; they experience a great deal of stress, and their bodies are mutilated;
- The lifespans of cattle, pigs and chickens on intensive farms are much shorter than what they would be naturally;
- Breeding a large number of animals in a limited space forces the use of preventive and continuous medical treatments (antibiotics) to avoid the spread of dangerous diseases for human and animal health – a practice that is not always successful;
- The selected breeds demand a high-energy food supply in order to be more and more productive; thus their diets include protein-based feed made of corn and soybean silage, as well as animal products and industrial waste. This has replaced more natural forms of nutrition, employing more fresh fodder and hay;

16 AG WEB Farm Journal (2021). [High-Rise Piggeries: What China's Pork Industry Transformation Means to U.S. Farmers](#)

17 Dairy Global Website (2021). [Going bigger! Big scale dairy farming a main trend in China](#)

18 EUROSTAT (2018) [Small and large farms in the EU - statistics from the farm structure survey](#) according to the EU evaluation standards, a very big breeding farm has at least a 100,000 Euros worth production

19 Ibid.

20 <https://www.ers.usda.gov/topics/animal-products/cattle-beef/sector-at-a-glance/>

- The grains, legumes, hay and straw that animals need are rarely produced on the same farm that the animals live on; on the contrary, their feed often comes from far away, adding a further environmental cost;
- Corn and soybean crops are monocultures with severe environmental implications; they are often grown in soils reclaimed from the destruction of primary forests and savannah habitats which play an important role in maintaining the balance of the planetary climate;
- monocultures – generally GMO crops – need lots of water, a high level of mechanization, fertilizers, pesticides and herbicides.

Consequences of the success of intensive agriculture

- the choice to rear a few, particularly productive breeds that can survive in indoor facilities has made a major contribution to the decrease in animal biodiversity;
- the increase in the number of animals being bred in non-diversified farms that cannot grow hay and grains for feeding purposes has led to an increase in demand for feed crops whose cultivation is a major cause of deforestation;
- the need to have an increasing number of animals indoors has resulted in the construction of bigger and bigger facilities, thus contributing to overbuilding and soil sealing;
- industrialized animal husbandry has made it necessary to build massive slaughterhouses whose staff, often poorly trained, slaughter large numbers of animals very quickly. This slaughtering process generally generates suffering and distress;
- animals are transported over long distances both before and after slaughter, even across continents, to satisfy global markets.

The impact of intensive animal husbandry on the surrounding land and local community's health

Intensive animal husbandry and monocultures are largely connected and are responsible for 14.5% of greenhouse gas emissions on a global scale²¹. This is generated by animal manure, fertilizers for the crops used to make feed, the transportation of animals and meat processing systems.

Manure, which is disseminated on meadows and pastures, contains nitrogen and phosphorus which contribute greatly to the pollution of surface and groundwater, eutrophication and biodiversity loss. The manure and fertilizers that are used to grow grain and legumes to feed animals release nitrous oxide (N₂O) - a greenhouse gas 265 times more powerful²² than carbon dioxide. This manure often contains antibiotics and other antimicrobial residues that increase health risks for local communities.

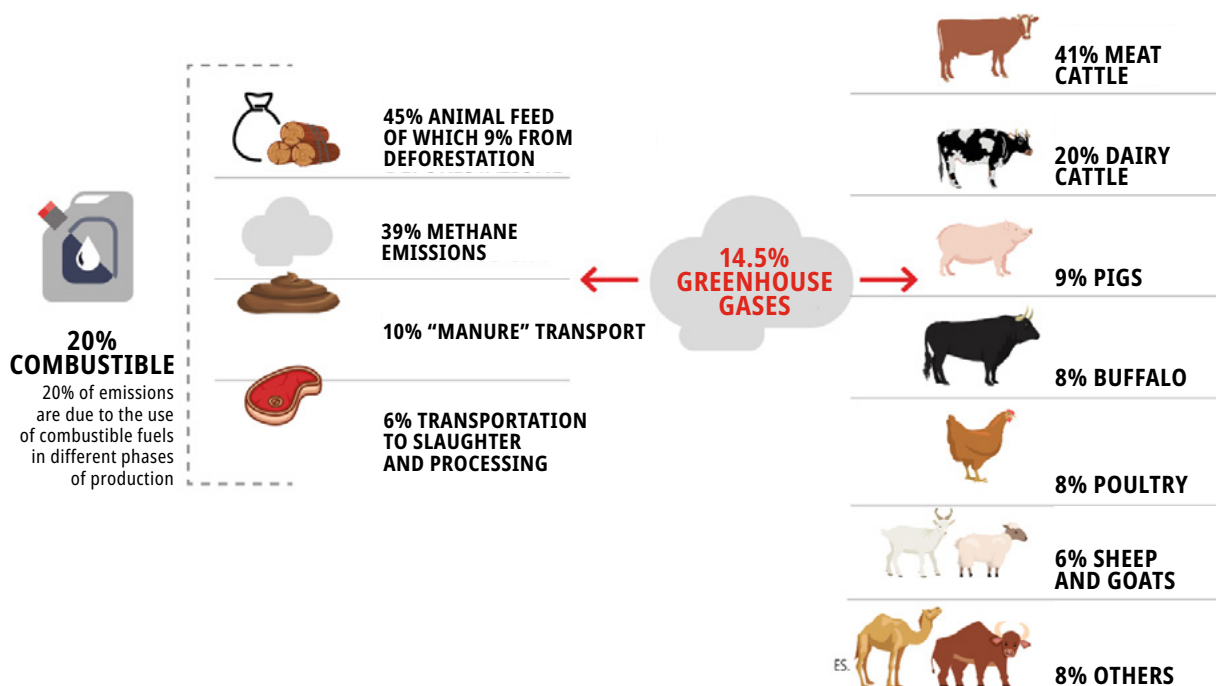
Ruminant livestock also produce methane (CH₄) as a digestion by-product due to the enteric fermentation. Methane does not constitute an immediate threat to human health, but as a greenhouse gas it is more than 28 times more powerful than CO₂ over a 100 year period²³.

21 FAO (2018). [FAO's Work On Climate Change United Nations Climate Change Conference 2018](#)

22 IPCC (2018). [Greenhouse Gas Protocol. Global Warming Potential Values](#)

23 Ibid.

The emissions impact of the livestock sector (7.11 Gt CO₂-eq/year)²⁴ is due to:



There are hidden costs for human health that arise from intensive animal farming globally. One of the most serious threats to those living in the areas with a high density of intensive farms is represented by particulate matter (PM). A research project carried out in the Po Valley in Italy, one of the areas with the highest density of livestock in Europe, showed that 94% of secondary particulate matter is formed when the ammonia from animal breeding reacts with other compounds in the air. PM is made up of fibers, carbonaceous particles, metals, silica, liquid and solid pollutants which end up in the atmosphere through *natural causes and human activities*. The most dangerous particles are those with a diameter of 10 micrometers (µm) or less, known as PM10. The lighter PM2.5 (up to 2.5 micrometers) remains in the atmosphere for a longer period of time before falling to the ground. Since PM2.5 can penetrate deeper into our lungs, this increases the risk of asthma, bronchitis, emphysema, allergies, tumors, cardiovascular problems and is responsible from 3 to 4 million premature deaths every year around the world²⁵.

From wildlife to us

As much as 60% of emerging infectious diseases are transmitted from animals to humans²⁶: starting with the first case of bird flu, in 1878, to the Spanish flu, HIV, Ebola and SARS-CoV-2²⁷, zoonoses have been on the rise over the last 80 years. These viruses originate in wild animals (e.g. bats, civets, pangolins and monkeys) and then, through a series of mutations, manage to cross the species barrier to infect humans (the so-called spillover). The transmission may be either direct or through intermediate hosts, such as livestock. Intensive livestock farms (especially pig and poultry farming), with animals in large numbers and low genetic variability, are potentially a place for development and rapid spread of zoonotic diseases²⁸.

24 FAO (2013). *Tackling Climate Change Through Livestock. A global assessment of emissions and mitigation opportunities*

25 More than half of the SARS-CoV-2 deaths occurred in Lombardy and Emilia Romagna, the Italian regions with the worst air pollution. A research study indicated that high PM levels might contribute to the lethality of the disease, see E. Conticini, B. Frediani, D. Caro (2020). *Can atmospheric pollution be considered a co-factor in extremely high level of SARS-CoV-2 lethality in Northern Italy?*

26 <https://pubmed.ncbi.nlm.nih.gov/18288193/>

27 Ibid.

28 WHO/CBD (2015) *Connecting Global Priorities: Biodiversity and Human Health*

The primary reservoir for Nipah virus, first identified in humans in Malaysia in 1998, was the fruit bat. When the forest, a traditional bat habitat, was partly cut down to make room for intensive pig farms, bats and pigs came into close proximity and the virus jumped from one species to another, and then to humans²⁹. A type of highly concentrated animal farming for monogastric species (pigs and poultry, for instance) rather than ruminants is offered as a possible strategy to reduce greenhouse gas Emissions, yet this practice may increase the risk of pandemics³⁰.

Zoonotic disease outbreaks are more likely to occur in tropical areas where land-use changes take place more rapidly, and wildlife has more contact opportunities with human communities. Deforestation, mining activities and agriculture are all causes of environmental disruption; the destruction of well-balanced ecosystems goes hand in hand with the commodification of wild animals (and natural resources in general) and higher market demand for wild meat and live wildlife, as a source of food or medicine, especially in tropical and subtropical areas³¹.

Poverty and food insecurity in Africa contribute to an increase in demand for wild animals, bringing them into closer contact with humans. This is the socio-economic context that spurred the outbreak of the Ebola and HIV epidemics. The demand for, and consumption of wild meat has increased in several parts of Africa, partly because of the downfall of traditional fisheries which have collapsed due to over-exploitation of the seas by industrial fishing fleets from the Global North. People have such a hard time obtaining proteins in some areas of the continent that they hunt wild animals in forests, sometimes with the aim of selling them to tourists and wealthier classes but also, and often, to feed their own families³².

The globalization of the world economy (with a high density human population and the massive transportation of goods and people around the globe) has made the factors which contribute to the spread of zoonotic diseases even worse. Furthermore, migrating birds may carry viruses around the whole planet³³. The fear of bird flu – which has not yet mutated into a form capable of infecting humans – has led to the killing of 24 million birds in the USA³⁴, 16 million in France³⁵, 14 million in Italy³⁶ in the last months of 2021 alone.

Wild fauna (e.g. wild boars, ungulates, wolves) approaching inhabited centres to look for food is what caused the spread of African Swine Fever in Europe. This disease does not affect humans but is seriously endangering pig farming and, consequently, the pork market³⁷.

29 Ibid.

30 <https://www.pnas.org/doi/10.1073/pnas.2001655117>

31 G. Volpato, M. F. Fontefrancesco, Paolo Gruppusu, D.M. Zocchi, A. Pieroni (2020) Baby pangolins on my plate: possible lessons to learn from the COVID-19 pandemic

32 Ibid.

33 M.Di Marco, M. Baker, P. Daszak, S. Ferrier (2020) Sustainable development must account for pandemic risk

34 <https://eu.usatoday.com/story/news/2022/04/19/avian-flu-2022-killing-birds-egg-prices/7275697001/>

35 <https://www.ouest-france.fr/sante/grippe-aviaire/grippe-aviaire-la-circulation-du-virus-diminue-sauf-dans-le-grand-ouest-ou-le-risque-reste-eleve-467d2f0a-d035-11ec-9a5d-1e5046ed7ce7>

36 https://www.repubblica.it/salute/2022/01/18/news/aviaria_un_epidemia_che_sta_uccidendo_milioni_di_animali-333858414/

37 <https://www.efsa.europa.eu/it/topics/topic/african-swine-fever>

ONE HEALTH, ONE WELFARE

Animal farms are crucial elements not just for food production but also terms of finding resolutions to the health, biodiversity and climate crises. The United Nations adopted a resolution in their latest Environment Assembly (UNEA)³⁸ that recognizes the link between environment, sustainable development, and animal welfare. For too long, however, animal welfare has been considered as a stand-alone subject, whereas it should be seen in conjunction with other aspects of a wider issue.

In 1984, Calvin Schwabe, a professor at the UC Davis School of Veterinary Medicine in California, coined the term “One Health” to stress an innovative approach of looking at the ecosystem, people, and animals as an interconnected system, thus fostering cooperation between veterinary and human medicine to better cope with global health challenges.

The One Health approach has become more common in clinical practice and the work of public institutions (including ministries of health, agriculture, and international organizations) over time, and has paved the way for a dramatic change, as animal health and animal welfare are now seen as important tools for achieving public health goals.

This systemic vision is essentially anthropocentric, however, and the animal world and its multiple needs must be considered with a sense of ethical responsibility. Humans, animals, ecosystems – they are all equally part of nature. Therefore, health and welfare can be achieved for one only if they are guaranteed for all³⁹. Sure enough, the WHO states that “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”⁴⁰. In 2016, the One Welfare approach⁴¹, by Rebeca Garcia Pinillos, expanded upon the concept of One Health, emphasizing a broader vision of the concept of health.

If the One Health approach is aimed at improving the health of an animal and the functionality of ecosystems in order to ensure better human health, the One Welfare approach⁴² considers human and environmental well-being as crucial for the promotion of animal welfare. Livestock farmers experiencing suffering, destitution, social exploitation, and economic issues because of the climate crisis are less sensitive to the needs of their animals. According to the One Welfare approach, improving the living conditions of livestock farmers and their awareness of the wider welfare issues helps to establish alternative approaches to their work. Likewise, better breeding practices can have a positive impact on the well-being of breeders, the environment, and communities.

38 <https://www.awresolution.org/read-the-resolution>

39 Zinsstag et al., 2011

40 Costituzione dell'OMS (1946) <https://apps.who.int/gb/gov/assets/constitution-en.pdf>

41 Pinillos et al, 2016, Pinillos et al, 2018

42 www.onewelfareworld.org



Reproduced from 'One Welfare – a platform for improving human and animal welfare' by RG. Pinillos, M. Appleby, X. Manteca, F. Scott-Park, C. Smith and A. Velarde. 2016. VetRecord 179(16):412, copyright notice 2019, with permission from BMJ Publishing Group Ltd.

EVERYTHING STARTS FROM THE SOIL

Any farm, even the most industrialized one, needs soil. All animals eat plants, whether grass and hay from pastures or grain grown in fields. The role of the soil is therefore fundamental to the production of all food; not only vegetables, but also animal by-products: meat, milk, eggs. Healthy, fertile soil that is rich in biodiversity is beneficial for both human and animal health. The rhizosphere of the soil, i.e. the portion of soil surrounding the roots of plants, is rich in microorganisms of extraordinary importance for the health of their hosts.

The presence of bacteria, viruses, fungi, worms, arthropods and other microorganisms in the first 10 inches (25 centimeters) of the earth is correlated with the health of farm animals⁴³. In healthy soil, the weight of the organisms living in the subsoil can be up to three-quarters greater than that of the animals living above ground⁴⁴, while in impoverished soil fertilizers must be used to constantly compensate for the lack of organic matter. Soil that contains less than 2% organic matter, as often occurs in Western countries (in Southern Europe around 74% of the land is below this threshold!⁴⁵), is poor, lacking in structure and degraded: a result of decades of intensive farming based on monocultures and synthetic products. Today 33% of the Earth's soils are degraded and over 90% may be degraded by 2050⁴⁶.

This is the result of decades of intensive farming, the growth of monocultures (mainly for animal feed production) and related agricultural practices which compact the soil and pollute it with synthetic chemical fertilizers and pesticides.

43 Aksoy E., Louwagie G., Gardi C., Gregor M., Schröder C., Löhnertz M. (2017). Assessing soil biodiversity potentials in Europe

44 Preuschen G. (1983). Verifica della fertilità del terreno. Terra biodinamica, Anno 3° numero 10, p. 13<

45 The State of Soil in Europe, A contribution of the JRC to the European Environment Agency's Environment State and Outlook Report— SOER 2010

46 <https://www.fao.org/about/meetings/soil-erosion-symposium/key-messages/en/>

The amount of pesticides used worldwide doubled between 1990 and 2019. Asia (particularly China) consumes 52.8% of the total but USA, Brazil and Argentina – the biggest producers of soybean and corn for animal feed – consume another quarter of all the pesticides produced in the world⁴⁷.

In Brazil, 52% of pesticides are used in soybean fields, a figure six times greater than in 1990 (today, the area used to grow soy in Brazil is as large as Germany). The amount of pesticides now being sprayed in the country is nine times higher than it was 30 years ago⁴⁸. In order to cultivate soy and maize for breeding, the Amazon rainforest, the world's largest rainforest is devastated, its soil polluted with pesticides that are hazardous to health. Three of these (such as paraquat) have been banned in Europe since 2007. The most widely-used herbicide is glyphosate, classified by the International Agency for Research on Cancer (IARC) as "probably carcinogenic"⁴⁹.

Many studies have highlighted the risks for humans, animals and the ecosystem caused by consumption of or contact with the pesticides used in agriculture⁵⁰. Although residues in crops do not exceed the indicated danger threshold for daily intake, the effect of residue accumulation in the human body over time is of concern to all of us. Herbicides and other synthetic chemicals are also responsible for the devastating die-offs of honeybees⁵¹, bumblebees, wasps, butterflies and other insects, which we need to pollinate three-quarters of the leading global food crops⁵².

What is Slow Food doing?

Slow Food is against monocultures and promotes agroecology. Unlike the conventional agronomic and zootechnical approach, focusing on specialization and the use of the same technologies in every context, agroecology is based on principles such as biodiversity, nutrient recycling, synergy, the interaction between crops, animals and soils, regeneration and the preservation of local resources and knowledge. Each and every element in an ecosystem is interconnected, and animals play an important role. In accordance with the principles of agroecology, it is key to recognize the ethological needs of animals; their nutrition must be based on local products, pasture grazing must be preferred and native breeds, which are generally the hardiest, must be protected.

Agroecological farming limits the use of chemicals in treatments and veterinary drugs to a bare minimum; it limits energy consumption and favors sustainable and renewable energy; preserves agricultural landscapes and their beauty, reduces the impact of buildings and avoids concrete as much as possible. [Read the position paper of Slow Food on agroecology.](#)

SLOW FOOD PRESIDIA

One of the most effective Slow Food tools to promote agroecology is the Presidia project. Since 2000 the Presidia have helped producers and breeders who safeguard biodiversity with the aim of promoting their local areas, recover traditional jobs and food processing techniques, save native animal breeds, plant varieties and rural landscapes and ecosystems from extinction.

47 <https://www.fao.org/faostat/en/#data/RP/visualize>

48 <https://eu.boell.org/en/2021/09/07/pesticides-banned-brussels-allowed-amazon#:~:text=In%20Brazil%2C%2052%20percent%20of,Brazil%20as%2030%20years%20ago.>

49 https://www.iarc.who.int/wp-content/uploads/2018/11/QA_Glyphosate.pdf

50 <https://www.sciencedirect.com/science/article/pii/S2214750021001104>

51 <https://link.springer.com/journal/11356/22/1/page/1>, <https://pubmed.ncbi.nlm.nih.gov/25063858/>

52 Klein et al. (2007) "Importance of pollinators in changing landscapes for world crops

To support the producers among its 600 Presidia, Slow Food provides training activities, promotes their products during events, puts them in contact with other stakeholders (cooks, technicians, universities, media), encourages people to buy directly from farms, tells stories about products and producers through narrative labeling. There are 220 Presidia for animal breeders, 70 of whom favor native breeds. The [fundamental guidelines](#) in the Presidia production protocols are inspired by the principles of agroecology and can be consulted through this [link](#)

SAVE BEES AND FARMERS

Slow Food regularly participates in the initiatives promoted by PAN Europe (Pesticides Action Network) to raise consumer awareness around the effects of pesticides on the environment and health, and with the aim of promoting alternatives.

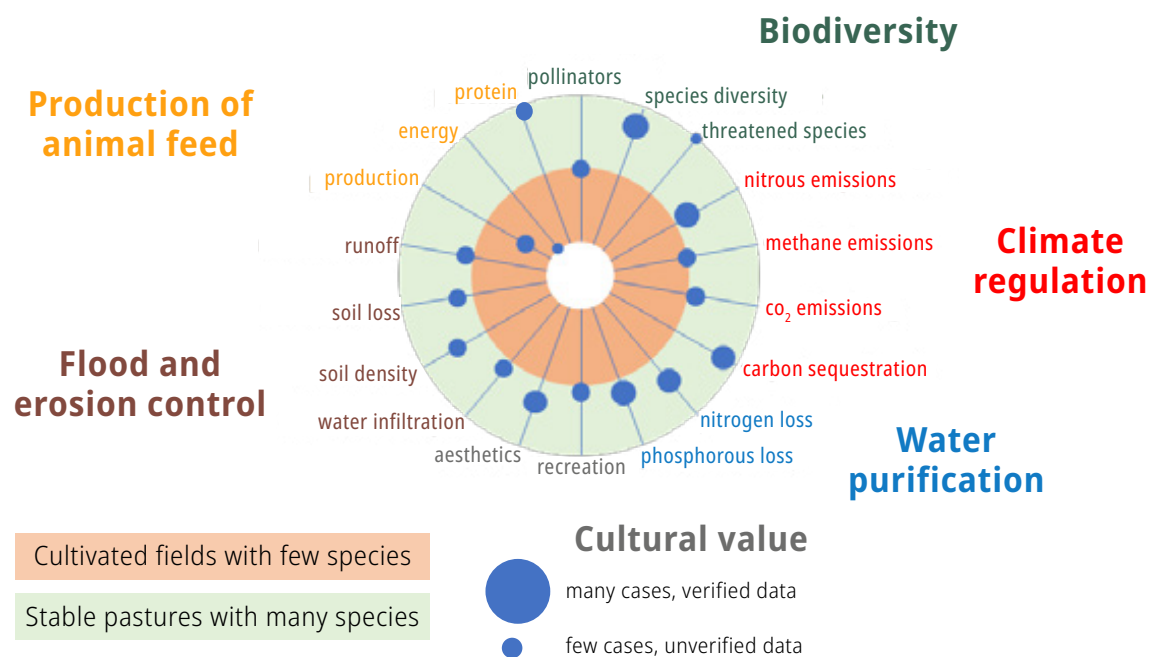
In 2021 Slow Food provided consistent support to an initiative undertaken by European citizens (ECI) “Save bees and farmers”, a signature collection campaign that involved more than 25 international organizations demanding that the EU phase out synthetic pesticides by 2035, with concomitant restoration of biodiversity and support for farmers during the transition phase. More than 1.2 million signatures were collected.

BACK TO GRAZING

Well-managed pastures are essential for sustainable animal farming and ecosystem management. They're crucial for the care of mountain areas and the regeneration of plains. Without animal farming, forests would reconquer the spaces previously claimed by human communities in the highlands. The work of herders—which includes tidying the woods, maintaining stream beds and repairing hydraulic works like drainage channels and embankments—is vital in the prevention of wildfires and landslides. Correct grazing practices can prevent the formation of layers of dry grass, which can facilitate the slipping of snow and lead to dangerous avalanches in the winter, as well as reducing the penetration of water into the ground, making it less available in the summer downstream. Dry grasses can contribute to the development of fires: this applies to both meadows and undergrowth. Taking good care of the pastures also means rotating animals according to the availability of space and the seasons. Grazing animals generate greater biodiversity and more abundant vegetation, controlling invasive plants and fertilizing the ground. Their manure contributes to the replenishment of the organic substances and the elements of the soil that are essential for plant growth, above all nitrogen. Pastures at higher altitudes, where it would be complicated, if not impossible, to grow crops for human consumption, limit food competition between animals and humans and ensure the well-being of meadows and woods through the presence of farm animals.

Permanent meadows in the plains, which have become quite rare, not only have significant value for the landscape, they also support a high level of biodiversity, both vegetal and animal (including pollinating insects, small mammals and birds) and protect groundwater levels. No tillage is carried out on permanent meadows, to encourage the development of wild grasses and, in general, human intervention is kept to a minimum.

Permanent meadows in comparison with cultivated meadows⁵³



Schils et al., 2022

The situation of pastures and permanent meadows

In the last 60 years the amount of land dedicated to pastures has been declining after reaching a peak between the end of the 20th century and the start of the 21st century.

Globally, we have lost a surface area of pasture equal to the size of Indonesia (more than 8 million square kilometers or 3 million square miles). In some areas the reduction of pastures and fodder areas has been more evident: in the last 60 years they have lost 16% of their total area in Europe, equivalent to the size of Bulgaria, while in Australia, one of the countries suffering the most from desertification and climate change, the amount of pasture land has decreased by 32%⁵⁴.

In the Italian Alps, the phenomenon is even more serious. According to some estimates, 45% of the previously-available foraging areas and pastures have been lost since 1960⁵⁵.

All this has been happening in a context of a constant increase in animal production. Between 2000 and 2013, the global production of meat and milk from cows, buffalo, goats and sheep increased by 13% (meat) and 32% (milk)⁵⁶. The production of animal-origin foods has become decoupled from the presence of pastures⁵⁷.

In Europe, the reduction of pasture land has led to reforestation and the growth of monocultures in the plains, causing a loss of plant biodiversity in both contexts. Over time, however, the advancement of woodland (which is proceeding at a rate of 0.6% a year⁵⁸) brings more woodland plant varieties, less suited to feeding livestock, leading to a further loss in overall plant biodiversity. This phenomenon is aggravated by the effects of climate change, which in many areas tends to further reduce the quality

53 Schils et al. (2022) [Permanent grasslands in Europe: Land use change and intensification decrease their multifunctionality](#)

54 FAO. FAOSTAT data 2019.

55 Chemini C. & Gianelle D. (1999). Pascolo e conservazione della biodiversità. In: Presente e futuro dei pascoli alpini in Europa. Ed. F. Angeli; Bovolenta S. (2004). Gestione della vacca da latte in alpeggio: la sperimentazione in malga. In: Politiche e scenari dell'Unione Europea per il settore agricolo-forestale della montagna alpina. Atti del convegno. Pedavena, 12-13 March 2004.

56 Fao, 2019

57 Poore J.A.C. (2016). Call for conservation: Abandoned pasture. Vol 351, Issue 6269: 132.

58 Garbarino M. et al. (2020). Contrasting land use legacy effects on forest landscape dynamics in the Italian Alps and the Apennines. Landscape Ecology volume 35: 2679–2694

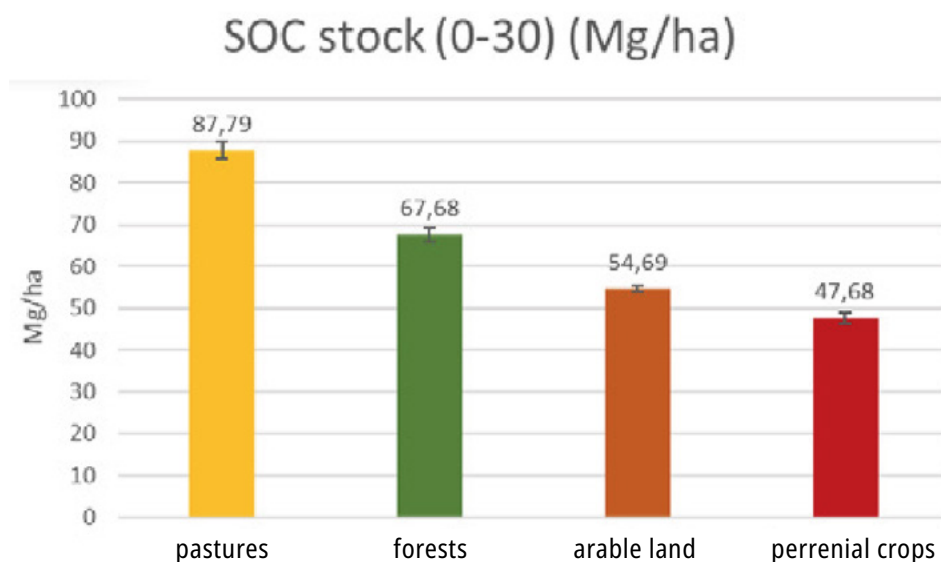
of pastures. As much as a third of the high-quality pastures in the Alps may already have disappeared. There is, at the same time, an increase in pastures where hardier grasses grow, which are less interesting from a livestock perspective, although useful from the point of view of carbon storage⁵⁹.

The loss of pastures also threatens wild animal biodiversity, as permanent pastures offer a refuge for many species of wild animals. Birds build their nests there (and birds are of great importance because they feed on insects, indirectly protecting crops and our health, as well as spreading seeds) while pollinating insects need the great variety of flowers found in permanent pastures.

A solution to climate change

Grazing on permanent pastures has environmental value because it facilitates the storage of carbon, in some cases even more so than forests⁶⁰. Animal farming in these areas can therefore be part of the solution to climate change.

Carbon stock in different soils⁶¹



Soil is the greatest carbon sink on earth; its storage capacity is around three times greater than the atmosphere, four times greater than all anthropogenic emissions and up to 250 times greater than annual fossil fuel emissions⁶².

Forests store carbon in leaves, roots and wood. Fires, which are unfortunately becoming increasingly frequent in various parts of the world, quickly release a large part of their sequestered carbon into the atmosphere. Grasslands and pastures store carbon in the soil, in their root systems: even if they burn, they do not release carbon.

59 S.Ravetto Enri, F.Petrella, F.Ungaro, L. Zavattaro, A.Mainetti, G.Lombardi, M.Lonati (2021) Relative Importance of Plant Species Composition and Environmental Factors in Affecting Soil Carbon Stocks of Alpine Pastures (NW Italy)

60 Hopkins A. & Del Prado A. (2007). Implications of climate change for grassland in Europe: impacts, adaptations and mitigation options: a review. Grass and Forage Science

61 S.Ravetto Enri, F.Petrella, F.Ungaro, L. Zavattaro, A.Mainetti, G.Lombardi, M.Lonati (2021) [Relative Importance of Plant Species Composition and Environmental Factors in Affecting Soil Carbon Stocks of Alpine Pastures \(NW Italy\)](#)

62 Bellieni M. et al. (2017). Il contributo dello stoccaggio di carbonio nei suoli agricoli alla mitigazione del cambiamento climatico. Ingegneria dell'Ambiente 176.

If all grasslands were converted to conventionally-cultivated agricultural land (with deep tilling of the soil and the use of synthetic fertilizers and weed killers, causing a significant reduction in organic matter over time), carbon stocks in the soil would diminish by about 60%⁶³. So-called “conservative” agricultural practices, aimed at maintaining organic matter in the soil (around 58% of which is organic carbon), can be included in strategies for restoring the health of the soil, reducing environmental degradation and desertification and increasing the resilience of agricultural ecosystems to climate change⁶⁴. Research by now seems to confirm that grazing landscapes have the potential to contribute to achieving carbon neutrality. Pastures seem to compensate for the emissions produced by the animals that graze on them, thanks to the sequestration of CO₂ in the subsoil⁶⁵. Obviously, focusing on grazing also means reconsidering the genetics of the animals raised: Not all cattle breeds are suitable for grazing.

What is Slow Food doing?

WE ARE SAVING PERMANENT MEADOWS AND PASTURES

Slow Food runs a project to restore the value of permanent meadows and:

- safeguard pastures and grasslands with abundant biodiversity that are still well-preserved and used;
- restore permanent polyphyte meadows that have been abandoned in the last few decades to make room for monocultures;
- recover water meadows, allowing for the production of fresh cheese during the cold months in the plains;
- restore hydraulic works allowing for better water regulation and management (e.g. karst springs);
- reintroduce hedges with a great deal of plant species that pollinating insects need as well as wetlands and wooded areas, useful to wildlife;
- allow livestock to live and feed themselves in contexts where their needs are met;
- encourage a return to hardier and local livestock breed farming and goat/sheep rearing;
- contribute to livelier and richer biodiversity on pastures and in soil ecosystems;
- make more nutrient and healthier cheese, milk and meat and restore the genuine flavors of traditional food products;
- encourage soil carbon storage, thus mitigating global warming;
- The project involves breeders from the lowlands and encourages them to find a different use for soils that have been overexploited by monocultures, and breeders from the highlands that preserve grasslands on mountains, plateaus, hills, and in marginal areas, by recognizing and valuing their contribution to environmental conservation. Through collaboration with experts from the Slow Food network and scholars studying farming systems, a communication campaign will be launched to raise awareness of the importance of farming practices.

63 Paustian K, Collins H.P., Paul E.A. (1997). Management Controls on Soil Carbon. Chapter in Soil Organic Matter in Temperate Agroecosystems. CRC Press.; Guo L.B. & Gifford R.M. (2002). Soil carbon stocks and land use change: a meta analysis. Global Change Biology

64 FAO (2017) Soil Organic Carbon. The hidden potential






65 Schuman et al. (2001) Influence of livestock grazing on carbon sequestration in semi-arid mixed-grass and short rangelands

The page dedicated to this project on the Slow Food website can be found at this [link](#)

PRESIDIA STORE CARBON

With the scientific support of INDACO, an environmental consultancy firm, Slow Food has carried out an analysis of Slow Food Presidia in order to measure their carbon footprint and environmental impact. The impact of sustainable animal farming, with grazing on permanent pastures, was compared with the impact of similar productions in industrialized farming systems. Emissions from the production process were measured through a Life Cycle Assessment, and their impact was calculated in terms of carbon dioxide emissions (CO₂-eq). The differences were significant, with emissions among Presidia between 30% and 83% lower than industrial farms⁶⁶.

CO₂ emissions of extensive farms compared with similar productions made conventionally in intensive farms *

	 ANNUAL EMISSIONS	 ANNUAL CO ₂ SAVINGS**	 ECOSYSTEM UPTAKE	 ANNUAL COMPENSATION	 CO ₂ SAVINGS COMPARED TO SIMILAR "CONVENTIONAL" PRODUCTION
LESACH VALLEY HAY MILK (AUSTRIA)	48 tCO ₂ year	46.000 km	239 tCO ₂ /year	190 tCO ₂ /year	-31%
MACAGN MOUNTAIN PASTURE CHEESE (PIEDMONT)	126 tCO ₂ year	154.100 km	1161 tCO ₂ /year	1035 tCO ₂ /year	-83%
MAREMMA CATTLE (TUSCANY)	180 tCO ₂ year	36.200 km	748 tCO ₂ /year	568 tCO ₂ /year	-30%
SANTA BRERA EGGS (LOMBARDY)	20 tCO ₂ year	30.200 km	63 tCO ₂ /year	43 tCO ₂ /year	-35%

*from: Buoni per il pianeta, buoni per la nostra salute (Slow Food/Indaco2, 2018)

66 Slow Food/Indaco2 (2018) Good for the planet, good for our health https://www.fondazione Slow Food.com/wp-content/uploads/2018/11/ING_Indaco_schede.pdf

THE ANIMALS

The value of animal biodiversity

In more than 10,000 years of agriculture, the knowledge of farmers has given rise to thousands of plant varieties and animal breeds, which are an expression of the cultural and ecological diversity of their territories and which, in turn, have given rise to rich and diverse gastronomic traditions. This biodiversity forms part of the cultural heritage of communities, but also an essential basis for ensuring a varied, enjoyable and healthy diet.

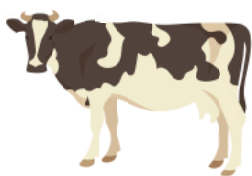
Over the millennia, animal breeds have adapted to different climates and environments as well as to hostile conditions in marginal areas where the presence of humans can actually help protect the environment.

Of the 7,745 local animal breeds surveyed by the FAO in 2019, selected by farming communities around the world over the centuries to ensure the best possible yields in relation to the characteristics of the territories, 594 were already extinct and 26% of the extant local breeds were classified as being at risk of extinction, i.e. with less than 1000 animals remaining. The situation is unknown for 67% of breeds, almost all of which are in less-developed countries, while only 7% seem not to be at risk. As of 2010, 25% of poultry breeds, 83% of cattle breeds, 44% of sheep and goat breeds and 50% of pig breeds were classified as threatened⁶⁷.

Many local breeds have almost completely disappeared and survive mainly thanks to small-scale or amateur farmers. "Industrial" breeds produce more milk or more meat, and intensive management allows for less labor: this is the main factor that has caused the abandonment of local breeds.

In the United States, 60% of the cattle raised on large industrial farms, mainly for meat, now come from just three breeds: the Simmental, Hereford and Angus, while more than 90% of American dairy cows are of the Holstein Friesian breed.

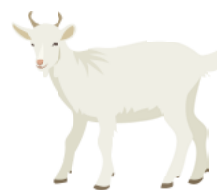
The most widespread breeds in the world⁶⁸



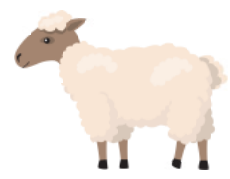
HOLSTEIN CATTLE
IN 128 COUNTRIES



LARGE WHITE PIG
IN 117 COUNTRIES



SAANEN GOAT
IN 81 COUNTRIES



SUFFOLK SHEEP
IN 40 COUNTRIES

67 FAO (2019) [The State of the World's Biodiversity for Food and Agriculture](#)

68 FAO (2009) [The State of Food and Agriculture](#)

Other drivers behind the loss of local breeds include the abandonment of mountain and rural areas, indiscriminate crossbreeding, a rise in consanguinity or inbreeding, the introduction of exotic breeds, a lack of public conservation policies, and poor competitiveness with commercial breed yields. Imported breeds often replace local ones considered less productive, but then struggle to adapt to their new environment. They end up being kept in sheds, often treated with drugs that are dangerous to the environment and our health. They also tend to need a high input of imported feed.

Local breeds are less productive and therefore seemingly less profitable, but other factors are seldom considered: they entail lower management costs, have less nutritional requirements, make good use of pasture and, if they can also use open spaces for movement, get sick less often, being more resistant and frugal; these are indispensable characteristics for those who farm extensively in marginal areas.

Favoring local breeds, which have adapted to a specific geographic area over time, helps preserve biodiversity; it also requires farming practices that are more respectful of animal welfare. Local breeds—being more resistant, hardy, fertile and long-lived, used to getting the most out of poor pastures for millennia—improve producers' chances of surviving climate change and allow animals to live a satisfying life outdoors.

What is Slow Food doing?

Since starting the [Ark of Taste](#) project in 1996, Slow Food has been publicizing the risk of extinction of thousands of animal breeds and varieties of fruits, vegetables and legumes, as well as cheeses, breads, traditional sweets and all the artisanal knowledge required for their production. Already two decades ago, Slow Food was aware of the environmental, cultural and economic value of this extraordinary heritage and the need to preserve it and transform it into an opportunity for local communities. Thanks to the collaboration of 12,000 nominators, who have interviewed farmers, cooks, artisans, cheesemakers, bakers and many more and compiled nomination forms, over 5,600 products including more than 600 indigenous animal breeds from 150 countries have been welcomed into the online Ark of Taste catalogue. The nominations are evaluated by technical commissions, involving agronomists, veterinarians, gastronomic historians, journalists and university lecturers, including teachers and researchers from the University of Gastronomic Sciences in Pollenzo.

The Ark of Taste has brought the attention of the media, public authorities, experts and many chefs and consumers to a previously unknown heritage in need of saving.

In many cases, on an Ark product Slow Food develops concrete projects of valorization that directly involve producers such as Presidia.

LIVESTOCK FARMING ACCORDING TO SLOW FOOD

The importance of choice

If animals graze, they will have the opportunity to choose again, something that has often been taken away from them. For decades intensive livestock farming has been focused on the standardization and repeatability of farming practices and resource use. One example is the TMR (total mixed ration) used for cattle in intensive systems⁶⁹.

In a sustainable animal farming system, however, the biodiversity-rich environment allows the animal to select the foods they prefer and where to browse, peck or root. Their behavioral needs are met and they can act differently depending on their age, physiological and emotional state, as well as according to the seasonal cycle⁷⁰. This kind of management is closely linked to the use of local breeds or populations, which have co-evolved genetically with humans and the environment, creating unparalleled synergies—and efficiency. Hyper-specialized breeds, on the other hand, selected to live indoors and eat a diet based on protein-rich feed, would struggle to survive if they were farmed in an extensive way. Native breeds, extensive farming systems and pastoralism are therefore closely linked and offer advantages for the ecosystem, but they cannot guarantee large quantities of low-cost food.

Social Animals

All farmed animals are “social animals”: Life in a group represents an ethological need and ensures their well-being, satisfaction and joy. Activities like playing and grooming (reciprocal coat cleaning, brushing away flies or licking each other) are fundamental for learning about social relationships in a herd and living a secure, healthy life outdoors⁷¹.

Reproduction should also ideally take place naturally, rather than through artificial insemination.

The adult male plays a key role in a herd, giving hierarchical stability and protection. When this is not possible (due to the use of breeds with limited numbers and few available breeders, the high risk of inbreeding, the difficulty of managing a male within a herd), then artificial insemination can be used to avoid these problems and reduce disease transmission.

This “animal society” needs reciprocal, stable relationships and harmonious, on-going interactions between animals and humans. Farmers must win the trust of the herd as well as individual animals through actions and attention able to satisfy their various needs on a daily basis.

For example, the repetition of a behavior that produces gratification and satisfies the needs of the animals is important, because these actions provide constant positive reinforcement.

Instead, on intensive farms, metal, concrete and an excessive use of technology define the spaces, mark the daily rhythms and guide the needs of the animals, debasing the very nature of animal farming and distancing people from the management of the animals.

At times animals raised extensively seem to act with a level of activity greater than what would be considered the norm at any given moment. This behavior is called “agency” and is actually the consequence of an increased level of competency in the animal. Making the most of environmental resources, avoiding

69 TMR is a mixture consisting of forages, concentrates, by-products, mineral and vitamin supplements and water. If too liquid, it impairs the ability to ruminate.

70 Provenza F. (2018). *Nourishment: what animals can teach us about rediscovering our nutritional wisdom*. Chelsea Green Publishing Co.

71 Phillips C. (2007). *Cattle Behaviour and Welfare*. John Wiley & Sons Pub. 2nd Edition

dangers and learning from the observation of members of the same species and the consequences of one's own behavior are fundamental learning capacities, necessary for living in a rich and complex environment such as an extensive farm.

It seems as though the ability to express agency produces a positive emotional state in the animals: cows that have learned to open a gate to reach their food have shown an increase in their heart rate specifically in relation to this learning process⁷². This positive emotional activation seems to indicate an awareness of the mastered skill, and therefore an excitement about the result.

Mutilations

The adoption of standardized mutilation practices is another characteristic of intensive livestock farms. Keeping large numbers of animals in confined spaces can lead to frustration, often culminating in aggression in bored animals who are not stimulated by their surrounding environment. These factors lead to behaviors like feather pecking in chickens, tail and ear biting in pigs, and cattle and other ruminants causing injuries with their horns to assert dominance during feeding or milking. For all species, the management of estrus-related behavior becomes a problem in small, confined spaces.

The solution adopted by industrial farming has been to trim beaks, dock tails (theoretically forbidden in the EU but still widely practiced) and remove horns, cutting off the parts of the body that can be wounded and those that can cause harm. While beak trimming in poultry and tail docking and teeth grinding in piglets are practiced only on industrial farms, it is often possible to find other types of mutilation on outdoor farms too. These include the castration of pigs and cattle, so that mixed groups of animals that would otherwise be hard to control can be allowed to graze together, and the nose ringing of pigs, to stop them rooting and allowing them to be left longer in a field without excessively damaging the turf. Dehorning is also frequently carried out to reduce the risk of injury to farmers.

Mutilations in general should be avoided, and extensive farming means they should not be needed. But avoiding mutilations on intensive farms means carefully revising many other aspects of the system, (like the density of the animals, the width of the feeding trough, the internal structure of enclosures, the homogeneity of the group, etc.), as otherwise there is a risk of worsening quality of life for the animals. In the case of pigs, not docking their tails can lead to more attacks and injuries if they are not given sufficient space to live comfortably and access the feeding troughs.

Animal-friendly husbandry should presume that mutilations, if performed, are gradually replaced by a type of management that eliminates the need for them. EU legislation on the welfare of pigs (EU Directive 2008/120) requires that caudectomy be restricted as far as possible (only veterinarians may authorize it) but it is still widely used in intensive livestock farming.

Several complex issues surrounding castration must be taken into account. In some countries, like Italy and Spain, pigs and sometimes also cattle are kept for longer periods of time so that they reach a greater weight, because their meat is used for traditional charcuterie.

Regardless of the type of farming being practiced, if they are not castrated their hormones could give the meat in some male pigs an unpleasant smell (boar taint), an offensive odor and flavor which is perceived when cooking and eating the meat, compromising the flavor of the processed products. This smell is caused by the production of androstenone and skatole accumulated in the adipose tissue of growing animals in relation to pubertal development. Most high-quality products require large quantities of unsaturated fat, which are more readily obtained from castrated animals.

72 Hagen K. & Broom D.M. (2004). Emotional reactions to learning in cattle

Currently, castration (removal of the testicles) is a solution that, if it is performed by properly-trained personnel, using the necessary anesthetics and pain killers, does not have serious consequences for the animal. Across the EU, 75% of male pigs are still surgically castrated. Castration may even have positive aspects regarding animal welfare. Indeed, it avoids the expression of mounting and aggressive behaviors observed in the more restless males, resulting in reduced welfare for the dominated animals that are harassed by their dominant pen mates. The administration of the hormone progesterone is instead to be avoided, and in the EU is prohibited by law.

Immunocastration is an alternative widely used in the Netherlands, Australia, New Zealand and South America (particularly Brazil). This consists of an injection of substances inhibiting the action of male hormones. It is not yet clear what consequences it may create for the animals over time, and there may be risks for human fertility. Immunocastration also poses a risk to those administering the vaccine because injections have to be repeated over time, even in adult males that are difficult to handle⁷³.

Horns are needed

Horns serve various purposes: to defend against predators, establish hierarchies in the herd, create shelter in the forest undergrowth and regulate body temperature thanks to their dense network of blood vessels and cavities through which air passes with every nasal inhalation⁷⁴. This latter reason is why we find animals with large horns mostly in hot, drought-prone environments, like central Italy (e.g. Maremmana and Podolica cattle, both Slow Food Presidia) or Rwanda (e.g. Watusi cattle, an Ark of Taste breed).

However, dehorning is commonly practiced, even on extensive farms. Alternatives to dehorning should be sought and, when these are not feasible, animals carrying the polled F gene (a dominant genetic trait, useful for selecting hornless animals) could be chosen. If dehorning cannot be avoided at all, it should be carried out by trained and expert veterinary staff and only in the animals' first weeks of life, as soon as the horn buds have formed, using anesthetic and analgesics.

Cooler is better

Animals must always be able to maintain the right body temperature in all seasons: While nebulizers, fans and forced air circulation systems are necessary in sheds, an extensive farm must use other cheap, low-input systems that include biodiversity as a resource. Forests or trees scattered around a field can provide sufficient shade in the summer, while hedges and groves of trees can provide protection from the wind and other bad weather in the winter. A short, pale coat increases the ability to transfer heat away from the body, while a dark, thick coat will help maintain heat in the colder seasons. The animals' activity can also be taken into account: Pigs' poor capacity for thermoregulation (they cannot sweat) can be compensated for by their rooting activities, whereby they create mud holes to roll in to mitigate the summer heat and even reduce the number of parasites on their skin.

Long live the animals

The longevity of farmed animals is closely, though indirectly, linked to the quality of life that farmers can give them. This makes it an important indicator of animal welfare on any given farm⁷⁵. Cows from a non-specialized breed, reared using respectful, extensive methods, can live more than 15 years.

73 Bonneau e Weiler (2019) Pros and Cons of Alternatives to Piglet Castration: Welfare, Boar Taint, and Other Meat Quality Traits

74 Neff A.S., Ivemeyer S., Schneider C. (2015). Mother-bonded and Fostered Calf Rearing in Dairy Farming. Bio Dynamic Farming and Gardening Association NZ & Bio-dynamic Association of India BDAI, Biolande.V. &FIBL. Hrsg. Pub.

75 Bruijnjs M.R.N., Meijboom F.L.B., Stassen E.N. (2013). Longevity as an Animal Welfare Issue Applied to the Case of Foot Disorders in Dairy Cattle. J. Agric. Environ. Ethics (26):

The short life span of specialized breeds in intensive farming is a consequence of their exploitation: A cow from a breed specialized in milk production, fed on an energy-rich diet based on feed, can produce up to 20 times the amount of milk which is naturally needed for the health of her calf. The selection of breeds for greater and greater productivity has increased the size of udders, which can cause walking problems. Foot problems are also often aggravated by paving inside sheds, which can be too hard and made of smooth and slippery cement. What's more, dairy cows in intensive farms often never leave the shed, except for a couple of months when they are in their dry period (when they cannot be milked and are preparing to give birth) and then often are only allowed in an outdoor paddock where they can move around, rather than being able to graze on a grassy turf with nutritional value.

Selling foods of animal origin cheaply generates economies of scale that oblige the farmer to send increasingly young animals to slaughter; these animals are potentially still productive, but not with the yields demanded by the economic system of intensive livestock farming.

The presence of older animals is important to rebalance the ethology of a herd. For example, adult cows rebalance the behavior of the herd, maintain stable hierarchies and pass on essential skills⁷⁶ like recognizing different plants in a pasture and defending against predators, while giving birth with great autonomy and maintaining a strong maternal instinct.

The life expectancy of farm animals



*Adapted from: <https://www.four-paws.org/campaigns-topics/topics/farm-animals/age-of-farm-animals>

76 Beilharz, R. G. & Zeeb, K. (1982). Social dominance in dairy cattle. Applied Animal Ethology

Down with cages

Over 300 million animals in the European Union still spend all or most of their lives imprisoned in cages, from sows in farrowing crates to egg-laying hens in so-called “enriched” cages, only slightly larger than battery cages, and calves confined in small, individual enclosures, far from the rest of the herd, for the first eight weeks of their life. While the European Commission has at least decided to revise its regulations and ban the use of cages by 2027⁷⁷, the situation in the rest of the world is dismal. In Russia, China and Turkey, for example, cages are still commonly used, while in India, the third-largest producer of eggs in the world, egg-laying hens are kept primarily in cages in which the space available for each chicken is much less than European or American standards⁷⁸. In the United States, the world second-largest egg producer, 73% of egg-laying hens are reared on battery farms (320 million birds).

Cages should not be used for any phase of the animal’s life. As much as genetic selection has sought to create animals that can survive in cages, we are all well aware that there are no cages, no matter how well managed, that can ensure a satisfactory level of animal welfare. The ability to move around is vital to ensuring that animals have a life worthy of being lived⁷⁹.

Young animals

On intensive farms, young and male animals are almost always a problem. The interest in maximizing production and containing costs often leads to their slaughter or the sale of immature meat from animals fattened quickly with diets that are not always appropriate.

On intensive livestock farms calves, lambs and kids are removed from their mothers just a few hours after birth to avoid them establishing a bond through suckling and early maternal care, as well as to ensure that all the mother’s milk goes toward the farm’s production. In dairy farms these newborn animals are taken away and placed in individual cages where they are fed on powdered milk or, in the best cases, with natural milk administered through teat feeders or, rarely, nurse cows. A calf’s natural need is to suckle milk eight to twelve times a day, but away from the mother this is not possible. The separation and loneliness in individual cages generate trauma in calves, further weakening their delicate immune system: their first weeks of life are often characterized by heavy diarrhea.

After spending their first two months of life alone in an individual cage the calves are then weaned and moved to pens with other calves of the same age. Males are usually sold first, to be slaughtered or fattened elsewhere. As for dairy farms, male calves are sold as soon as possible to be used for the production of veal.

On beef farms the calves generally remain with their mother for 6 months.

The fate of male lambs is similar to that of dairy calves. They are often slaughtered when they are still sucking their mother’s milk, at little more than 30 days of life, and sold as “suckling lambs”, with this definition being used as a synonym of quality. Undoubtedly meat at this stage of development is very tender, but it is certainly no tastier than the meat of a three month old lamb that has been able to graze and develop more mature meat.

77 The End the Cage Age initiative launched in 2018 by a coalition of 170 organizations including Slow Food, has collected 1.4 million signatures. In response to this petition, the EU Parliament passed a resolution committing the Commission to the phasing out, by 2027, of cages for laying hens, rabbits, broilers, quail, ducks, geese, sows and calves.

78 Bracke M.B.M. (2009). Animal Welfare in a Global Perspective - A Survey of Foreign Agricultural Services and case studies on poultry, aquaculture and wildlife. Rapport 240. Wageningen UR Livestock Research Pub.

79 D.Van de Veer, Interspecific Justice and Animal Slaughter, 1983

Giving colostrum within 6 hours of birth is essential to the well-being of the animals, as it passes on maternal immunity, and this should be done as early as possible. The use of milk from the same species, rather than artificial powdered milk, is preferable, and using wet-nurse animals can help reach this objective. Muzzles should be avoided (NB: the EU does not allow muzzles according to Dir. 2008/119/CE)⁸⁰, because reciprocal licking among peers and free access to water and forage can help ensure a good quality of life during growth.

Farmers should pay great care to the management of young animals, whether calves, lambs, kid goats or piglets. These are social animals, with a strong need for community and visual and aural connections; the use of individual cages should therefore be avoided. Instead, the young animals should be kept in enclosures with others of the same age and size, where they can develop psychologically and emotionally⁸¹.

In the egg industry, approximately 7 billion day-old male chicks⁸², of which 330 million in Europe⁸³, are culled worldwide every year as they do not produce eggs and do not grow fast enough to be profitable for the meat market. They are usually killed by suffocation or by being minced alive, whereafter their bodies are ground up and used to feed other animals.

Selection aimed at increasing productivity means that every hen produces between 250 and 300 eggs a year for around two years. After this the number of eggs laid begins to decline, and so the hens are normally sent to slaughter. A hen from a native chicken breed will produce around 150 to 180 eggs a year, but only in certain periods of the year (production falls or stops altogether when it is too cold or too hot, when there are fewer hours of light and during molting, between September and October). One solution could be the choice of hybrids where the male puts on weight more quickly, even though this means lower egg productivity for the females. Another option is the use of tools such as spectroscopes for egg sexing that can tell which eggs contain males before they hatch.

All animals are equal

Oftentimes, different animals will be managed in very different ways on the same farm, leading to a wide range of levels of quality of life. Beef cattle are pastured while veal calves are fattened in cages. On dairy farms young or non-lactating cows might be kept outdoors while those being milked live indoors and are fed with TMR. Often the individuals destined for food production are managed in a more intensive way, profoundly disconnected from the ecosystem. Respectful treatment must be guaranteed to all animals on every farm and during all the different physiological and productive phases of the animals.

Escape routes

Animals are deeply hierarchical. When a group is formed, an individual immediately prevails and is recognised by the others as the one in charge. Those at the top of the hierarchy eat first and lead the rest of the herd to other pastures, for instance.

When a certain hierarchy is established, either in a herd or a cowshed, this remains stable over time, until a younger animal threatens the role of the dominant one. The breeder may help decrease or pre-

80 A muzzle is not allowed in the EU according to the Directive 2008/119/CE

81 Neff A.S., Ivmeyer S., Schneider C. (2015). Mother-bonded and Fostered Calf Rearing in Dairy Farming. Bio Dynamic Farming and Gardening Association NZ & Bio-dynamic Association of India BDAI, Biolande.V. &FiBL. Hrsg. Pub.

82 M.E. Krautwald et al. (2018) Current approaches to avoid the culling of day-old male chicks in the layer industry, with special reference to spectroscopic methods

83 C. Reithmaier, O. Musshof (2019) Consumer preferences for alternatives to chick culling in Germany

vent opportunities for conflict, thus making sure that everyone can access the feeding or the drinking troughs and resting areas, by pre-planning the spots and possible escape routes, and therefore allowing the “submissive” subjects to escape or avoid attacks.

What is Slow Food doing?

GUIDELINES FOR THE PRESIDIA

Slow Food, with the help of experts and veterinarians from its network, has outlined some guidelines for the main livestock farming sectors: cattle, sheep, goats, pigs, poultry and waterfowl. The guidelines for the Presidia focus on small-scale extensive farming where animal feed mostly comes from the farm itself, or the local area. Native breeds play a key role: 70 Presidia promote the reintroduction of endangered breeds by promoting their by-products. This form of farming gives more room to the animals, compared to conventional farming, and avoids cages and mutilations (except castration, which is only performed by experts with a surgical procedure, under anesthetic). The animals' feed is high-quality and natural, made of fresh fodder, hay, grain, legumes, and no GMOs. There are no accelerated growth programs and animals are slaughtered only when they have grown to maturity. The distance between the farm and the slaughterhouse must be less than 50 km. Preventive treatments are not allowed, and antibiotics are only used when the animal cannot be treated otherwise.

End the cage age

In 2019 Slow Food, with a European coalition of associations, contributed to the dissemination of the ECI “End the Cage Age”, started by Compassion in World Farming. The aim of the campaign was to push the European Parliament to ban cages from European breeding farms. The petition collected over 6 million signatures and led to a ban cages by 2027.

ANIMAL FEED

A good diet is essential for animal welfare and it starts from proper agronomic management of the land where the hay, grains and legumes are cultivated, as well as pastures. Only a low-input system can ensure good nutritional value, the absence of chemical residues and the maintenance—or improvement—of soil health.

Animals must also be given an adequate ration based on their age (growing animals require a greater concentrations of protein compared to those being fattened or maintained) and physiological state (for example, females after the first third of pregnancy need correctly formulated supplements). Animals must never be pushed to feed beyond their physiological needs.

Lastly, it is important to provide the right ratio between forage and concentrated feed provided as a supplement (70% of the dry matter should be forage).

These factors can help prevent digestive, metabolic and behavioral disorders. Specific needs may be different depending on the breed.

A good diet, with fodder and a mixture of quality, preferably locally sourced grain and legumes (protein peas, field and lupin beans) helps prevent digestive, metabolic and behavioral disorders.

When animals are kept indoors, the number of daily feedings is vital (the ration should be divided into multiple distributions), as is feeding that allows homogeneous and constant feeding for all the animals and gradual changes from one type of diet to another. Lastly, regular access to fresh, clean water throughout the year is an essential prerequisite to maintaining a good quality of life for farmed animals.

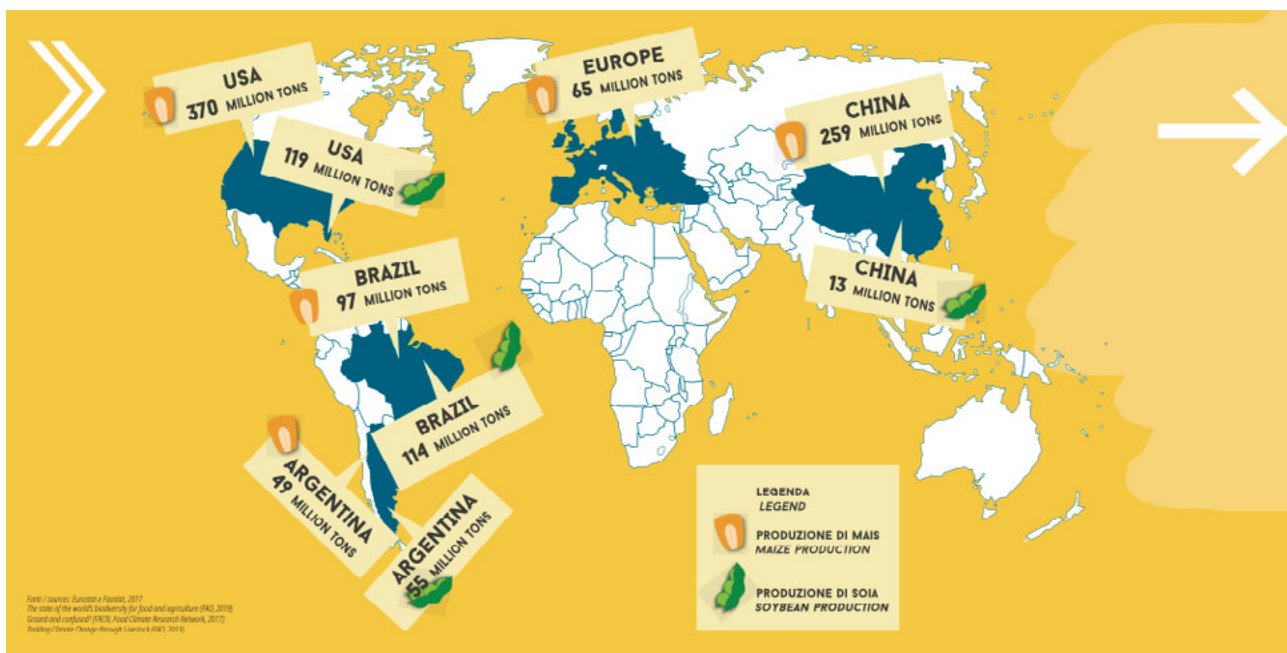
Livestock feed, especially in intensive farming, has seen an increase in the use of soybeans and grains (especially ensiled maize)⁸⁴ over time, to the detriment of other, less energizing local crops or fodder. Recently-developed animal breeds thus appear to be more efficient and productive and have more nutritional needs than those bred in the past.

Intensive meat and milk production requires large grain and legume monocultures to grow animal feed, with serious consequences.

In South America, the area used to grow soy is 200 times bigger than it was in the 1960s. Soybeans are the sixth-most cultivated crop globally, in terms of quantity produced, and fourth in terms of cultivated area and economic value. Around 75% of the crop is turned into animal feed, half of which goes to feed poultry and nearly a third is for pigs⁸⁵. The largest buyers of soy from the South American market are China and Europe. Incredibly, Europe produces just 7% of the soy it uses to feed its livestock⁸⁶.

What is the true cost of this imported animal feed used in China and Europe?

Where does cow feed come from?



The planting of soy is the leading cause of deforestation and pesticide and herbicide pollution in the Gran Chaco ecosystem, the biggest dry tropical forest in South America (stretching across Argentina, Paraguay, Brazil and Bolivia), and the biome of Cerrado, the Brazilian savanna. These ecosystems are protected by the Soy Moratorium agreement that has partially limited the planting of soy in the Amazon since 2006.

84 Ensilage is a process stabilizing the bacterial flora contributing to better preserve grass crops and increase their nutritional potential. Silage may cause acidosis in animals, if not properly administered and, besides releasing an unpleasant and bitterish taste in the resulting meat or cheese, in case the silage making process is not properly performed, it may develop dangerous aflatoxins, moulds that might be carcinogenic to humans.

85 FCRN (2020) [Building Block. Soy: food, feed, and land use change](#)

86 T. Hein (2021), [The soybean situation. 2021 and beyond](#) All About feed

Argentina lost 22% of its forests between 1990 and 2015, especially due to the planting of soy⁸⁷. A study by the Humboldt University of Berlin estimated that over half of the birds and 30% of the mammals in the Paraguayan Chaco will go extinct in 10-25 years if no preservation measures are taken⁸⁸. According to the World Bank, since soy farmers in Argentina have switched to glyphosate-resistant GMO varieties, the use of agrochemicals increased by 100% over the last 20 years⁸⁹.

Maize is another issue requiring careful reflection. In the poorest countries of Africa and Latin America maize is a key element of human nutrition, yet on the global level 63% of the maize we grow is used to feed livestock. Maize production is almost six times greater than it was in 1961, because recently-developed varieties provide much better yields, though ever higher quantities of fertilizers, water and pesticides are employed⁹⁰.

The climate crisis will surely endanger future harvests since maize needs abundant irrigation. Native maize varieties are more drought-resistant and better suited to their native soils. They are less productive compared to newer hybrid varieties, but their lower cultivation costs and higher sustainability compensate for this loss.

GMOs are not the solution

Most of the soy and maize used to feed livestock is GM, as are rapeseed, cottonseed, potatoes and alfalfa. Since their introduction in the early 1990s, GMOs have been touted as a solution to combat world hunger and the effects of climate change on agriculture, as well as an alternative to the excessive use of chemicals due to their resistance to pests.

Thirty years after their introduction, GMOs have not kept their promises. World hunger, after a halt in recent years, is on the rise again and so is the use of pesticides and herbicides. The loss of biodiversity is proceeding apace as GMO seeds supplant those that were once stored and reproduced by farmers. Although there is no evidence about the health impacts of their consumption, traces of modified DNA have been found in animal organs and their derivatives (e.g. milk). In addition, some insects are beginning to develop resistance, making new chemical treatments necessary.

What is Slow Food doing?

Slow Food is strongly against GMOs as they support a corporate agricultural system, wherein businesses own GMO patents and control the seed, chemical fertilizer, and pesticide markets. This system is based on monocultures, deforestation, and an import dependency which creates a stronghold on farmers in poorer countries. More productive seeds will not offer a solution to the problem of world hunger: only structural economic change can.

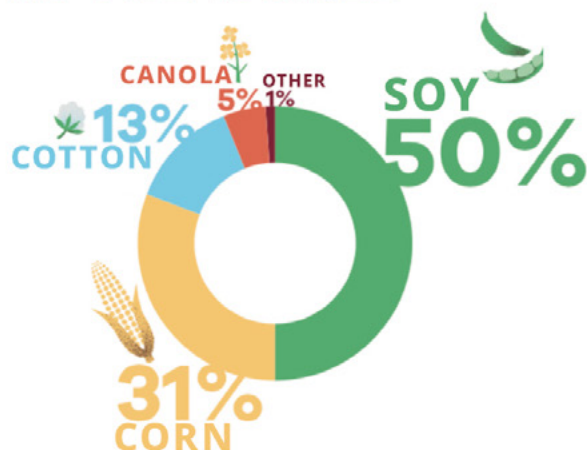
87 Mighty Earth, Regnskogfondet, Fern (2018) [The avoidable crisis. The European Meat Industry's Environmental Catastrophe](#)

88 Semper Pascual et al. (2018) [Mapping extinction debt highlights conservation opportunities for birds and mammals in the South American Chaco](#)

89 PROFOR e World Bank Group (2016) Argentina. Country Environmental Analysis

90 Faostat PROFOR e World Bank Group (2016) Argentina. Country Environmental Analysis

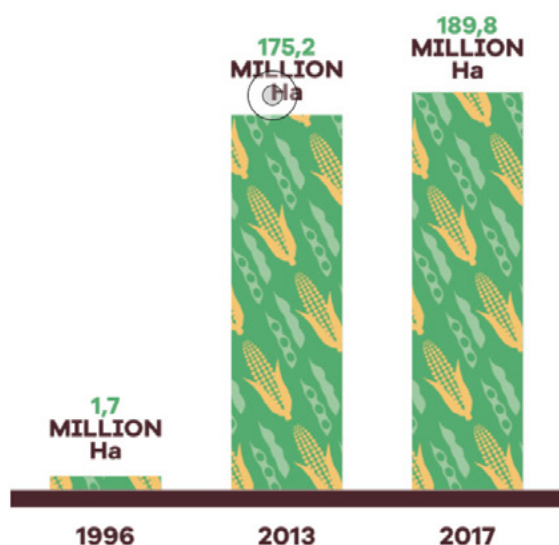
WHAT GMOS ARE BEING GROWN IN THE WORLD



WHAT ARE GMOS USED FOR?



WORLDWIDE SURFACE AREA PLANTED WITH GMOS



For more information on GMOs, consult the Slow Food position document at this [link](#)

Grass matters

Fresh grass has disappeared from the diet of today's ruminant herds, who mostly live indoors, while hay is fed in small quantities, accounting for only 30 to 50% of the dry matter they eat. A good diet should contain at least 70% fresh or hay fodder.

Though there are seasonal and geographical variations, ruminants must primarily feed on grass in order to live healthy, happy lives. Depriving them of the possibility to ruminate and graze, to autonomously move from pasture to pasture and live together with other herd members outdoors, satisfying the ethological requirements specific to their breed and species, means condemning them to an unnatural life.

As well as ensuring physiological and behavioral advantages, pasture grazing is also of great nutritional relevance. The grasses found in pastures, particularly permanent ones, are a unique dietary resource for the animals, a living food, unlike preserved forage (hay and silage) and grains, which are primarily made up of dead cells. Grass, is made of vital, living cells throughout the growing season, meaning it provides an excellent source of nutrients with a high biological value: sugars, amino acids, digestible fiber, minerals and vitamins. Friesian breed cows reared indoors on conventional feed and silage will

normally be slaughtered after an average of one and a half births, because they can no longer guarantee a milk yield sufficient for the farm's profitability. If they are pastured they produce less milk but of higher quality, remain strong and active and get sick less often.

The hay that conventionally-farmed animals eat rarely comes from multi-species meadows or permanent pastures, but from single-species lowland fields (planted with just one species, usually ryegrass or alfalfa), and is lacking in nutritional and aromatic substances. Permanent pastures are rich in biodiversity, with anywhere from a few dozen up to over a hundred botanical species, depending on the altitude and area. The animals feeding on these plants produce milk rich in aromas, antioxidants like beta-carotene and vitamin E and more "good" fatty acids—omega-3s and CLA—than would be found in the milk or cheese commonly sold in supermarkets. CLA is a polyunsaturated fatty acid that forms in the rumen of animals and whose anti-carcinogenic, anti-inflammatory and antioxidant properties are well known. Omega-3s and omega-6s are polyunsaturated fatty acids that our body cannot produce on its own but which must come from our diet. They are essential to the composition of our membranes and vital to the metabolism of cholesterol. Our diets are often unbalanced, with too much omega-6, and this tends to be compensated by supplementing with foods rich in omega-3, generally derived from fish oil.

A milk with a 1:1 to 4:1 ratio of omega-6-omega-3 polyunsaturated fatty acids can have positive nutritional and health benefits. If the animals eat fresh grass from permanent mountain pastures, the ratio can even be less than 1:1.

The intake of hay and fresh grass rich in omega-3 compensates for the intake of omega-6 from a diet rich in cereals⁹¹. Meat from animals fed with fodder also has a better fat profile, with more omega-3 fatty acids and anti-carcinogenic antioxidants⁹².

In monogastric species (pigs, rabbits and poultry), grass consumption has a positive effect on the fatty acids, oxidative stability and antioxidant content of their meat and eggs. Extensive farming systems (organic, free-range and low-input) account for only a small part of poultry production, at least in the European Union (where the figure is around 5%), but consumer interest is growing and consumption is growing by about 10% annually⁹³. Free-range farming, on grass, where animals can move freely and take advantage of natural hiding places, feeding on grains, grasses and small insects, thus satisfying their ethological needs, allows greater well-being and a longer lifespan than intensively-reared poultry. Feeding on pastures increases the content of long-chain mono- and polyunsaturated fatty acids in the diet, and decreases the amount of short-chain saturated short-chain, saturated and omega-6 fatty acids. Phytanic acid, CLA, aromatic compounds, polyphenols and omega-3 content also increases, with nutritional benefits. However, the ideal genetics for rusticity and good meat production have yet to be found. This is why crossing traditional breeds is a practice of interest⁹⁴.

Analysis conducted on Slow Food Presidia breeds (e.g. the Saluzzo White Hen and Gascon Chicken) has found them to have leaner meat and eggs with less saturated fat, lower cholesterol levels and more proteins than conventionally-farmed chicken breeds⁹⁵. In particular, the meat of the Gascon Chicken (France) has a fat content of 1.33g/100g compared to 3.6g/100g for conventionally-farmed chickens⁹⁶.

91 A.P. Simopoulos (2010) *Healthy Agriculture, Healthy Nutrition, Healthy People*. World Review of Nutrition and Dietetics. Vol.102

92 C. Daley et al. (2010) A review of fatty acid profiles and antioxidant content in grass-fed and grain-fed beef

93 C. Castellini et al. (2021) *Extensive Rearing Systems in Poultry Production: The Right Chicken for the Right Farming System*. A Review of Twenty Years of Scientific Research in Perugia University, Italy

94 Ibid.

95 Slow Food (2022) *Our food, our health: Nourishing biodiversity to heal ourselves and the planet*

96 Chicken analyses were carried out at the Chemical Laboratory of the Turin Chamber of Commerce (Italy) on a sample of Gascon chicken Presidium from the Ferme du Vidallies, L'Isle-de-Noe (France), compared with data from the food composition tables of the Council for Agricultural Research and Analysis of Agricultural Economics (CREA).

No forced feeding

In some countries the force feeding geese and ducks is practiced, through a process known as “gavage”, in order to produce foie gras. The practice involves inserting a metal tube from 8 to 12 inches (20 to 30 centimeters) long into the throat to reach the stomach and fill it with up to 16 ounces (450 grams) of food, an operation that is repeated two or three times a day. The birds’ liver fattens as a result (hepatic steatosis).

The average weight of the liver of a normally-fed duck is 2.7 ounces (76 grams), with a 6.6% fat content, while the average weight of a force-fed duck ranges from 19 to 35 ounces (550 to 982 grams), with a 55.8% fat content. Various studies on animal behavior have shown that this practice causes aversion, discomfort and suffering for the animals⁹⁷, but it is still common in many countries, not just in the EU (where 90% of the world’s production is concentrated) but also in China, the United States and Canada⁹⁸. Around 37 million ducks and 700,000 geese are raised for the production of foie gras every year in the EU alone⁹⁹. Many countries have banned the production or sale of foie gras, and many organizations and individuals have spoken out against its production and consumption. In 2002 the FAO sided against the practice of gavage, stating that the production of foie gras “raises serious animal welfare issues.”¹⁰⁰ Force feeding to produce foie gras has been banned in all 29 countries that have ratified the European Convention for the Protection of Animals kept for Farming Purposes, except those “where it is current practice”¹⁰¹: France, Spain, Bulgaria, Hungary and Belgium.

What is Slow Food doing?

In 2015 [Slow Food](#) declared its [opposition](#) to the force feeding of animals and decided not to promote products made with these practices.

97 EU Scientific Committee on Animal Health and Animal Welfare (1998) Welfare Aspects of the Production of Foie Gras in Ducks and Geese

98 EURO FOIE GRAS The production <https://www.eurofoiegras.com/en/the-production/> consultato nel 2022

99 Ibid.

100 FAO (2002) Goose Production. FAO animal production and health paper 154, chapter 11

101 https://web.archive.org/web/20090401220339/http://www.coe.int/t/e/legal_affairs/legal_co-operation/biological_safety%2C_use_of_animals/farming/Rec%20Muscovy%20ducks%20E%201999.asp



ANIMAL HEALTH IS OUR OWN HEALTH

Industrialized farming has a deep impact on animal and human health. Factory farming, with thousands of animals kept in confined spaces, promotes the spread of pathogens, often because excrement is not removed in a timely manner. The animals suffer from recurrent pathologies like mastitis, lameness and diarrhea as a result of overexploitation, bad nutrition and injuries sustained within the facilities (such as from metal grids or concrete floors) or from violence among the animals.

Hot weather also impacts on animal quality of life when ventilation systems are not adequate. High ammonia levels, due to the excessive concentration of excrement in the environment, also cause severe breathing problems for the animals.

The suffering of animals in intensive farming, as mentioned above, is demonstrated by the short life expectancies of these animals in comparison to their counterparts living in a more natural context, under no pressure for production purposes.

Industrial farming seeks to deal with this situation through the excessive use of therapeutic treatments like antibiotics, contributing to the rise of antimicrobial resistance (AMR), instead of tackling the real problem, i.e. the living conditions of farmed animals.

Antibiotic treatments

Of all the antibiotics used in the world, 73% are used in livestock farming¹⁰². They are administered not just to treat illness in animals, but also to prevent it. Intensive farms that house thousands of animals in confined spaces offer the ideal environment for the rapid spread of pathogens. In some countries antibiotics are used to encourage weight gain¹⁰³ (the first studies that showed that animals put on weight when given antibiotics date from the 1950s) or to reduce the risks linked to poor hygiene on farms. The excessive use of antibiotics on farms—often given in the feed to the whole herd and not just to sick animals—is a major global problem. Bacteria (*E. coli*, *Staphylococcus aureus*, *salmonella*, *campylobacter*) are constantly adapting to new conditions, developing resistant genes that pass to other bacteria and from species to species. Resistance transfers from animals to humans because the molecules used in antibiotic drugs are the same. This means that antibiotics become increasingly less effective in treating infections in humans too.

According to a report by the European Food Safety Authority (EFSA)¹⁰⁴, the number of pathogens resistant to more than one antibiotic (multidrug resistance) is constantly growing. Every year 700,000 people around the world die because of bacterial infections that cannot be treated due to AMR¹⁰⁵, and it is predicted to become the leading cause of death in humans by 2050, potentially killing 10 million people a year¹⁰⁶.

Antibiotic-resistant pathogens have been found in 51% of samples of poultry sold by the biggest producers in five European countries. In 35% of cases bacteria were found to be resistant even to so-called “last-resort” drugs, classified as HP-CIAs (highest-priority critically important antibiotics), those used when more common antibiotics do not work¹⁰⁷.

102 <https://www.science.org/doi/10.1126/science.aaw.1944.e> Antimicrobial resistance. World Health Organization.

103 The use of antibiotics to improve the performance of farmed animals is allowed in Brazil, while it is prohibited in the EU.

104 EFSA (2020). The European Union Summary Report on Antimicrobial Resistance in zoonotic and indicator bacteria from humans, animals and food in 2017/2018. EFSA Journal, 18(3).

105 <https://www.who.int/docs/default-source/documents/no-time-to-wait-securing-the-future-from-drug-resistant-infections-en.pdf>

106 O'Neill J. (2014). Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations. The Review on Antimicrobial Resistance. UK Prime Minister Press.

107 <https://eu.boell.org/en/2021/09/07/antibiotics-useless-medicines>

A report from the Natural Resources Defense Council (NRDC) in the United States shows that American farmers use 42% of all the medically important antibiotics, i.e. those used for humans, on animals, and administer them between three and six times more frequently than many of their European counterparts¹⁰⁸.

Resistant microbes enter the human body not just from eating meat and other animal products that contain them, and foods that have come into contact with animal excretions, but also from working with meat or being in environments where microbes are released by meat, or from being in contact with the animal urine, feces, saliva, mucus or blood, or even with insects or parasites that have had contact with the animals (fleas, ticks, mosquitoes). The risk of contracting antibiotic-resistant pathogens is a hundred times higher than average for veterinarians, slaughterhouse workers, farmers and those living close to farms. If groundwater becomes contaminated, then even a glass of water can be a source of transmission¹⁰⁹. The genes that cause resistance can survive in the human stomach, rendering future treatments ineffective. If we cannot rely on the effectiveness of these drugs in the future, it will become increasingly hard to fight serious illnesses.

Researchers predict that without governmental controls, there will be a 67% increase in the use of antibiotics in the livestock industry (compared to 2010) by 2030, and that consumption will double in the poultry and pig sectors¹¹⁰.

The EU has planned measures¹¹¹ to contain antibiotics¹¹² and their use is declining in EU countries¹¹³, but the rest of the world is going in the opposite direction.

AMR is highest on farms in India and China, but is also growing quickly in Brazil and Kenya¹¹⁴, mainly due to excessive use of antibiotics.

Better training in the use of antibiotics is necessary. In addition, better animal management practices would help to avoid the misuse of these powerful and important drugs.

Hormones

In some countries, farmed animals are given steroid hormones (natural estrogens, progesterone, testosterone and their synthetic versions) to boost their growth rate and thus the speed and efficiency with which the farms can produce meat, with obvious reductions in costs. A study from the University of Iowa showed that, depending on the type of implant and the age and sex of the animal, these growth hormones can increase growth rates from 10% to 20%¹¹⁵.

The EU has banned¹¹⁶ the use of growth-promoting hormones (dir.96/22/EC). Studies have shown the carcinogenic nature of some of these hormones, the possible effects on the human reproductive system and the persistent questions surrounding the link between the consumption of hormones in animal

108 <https://www.nrdc.org/sites/default/files/better-burgers-antibiotics-ib.pdf>

109 <https://www.cdc.gov/onehealth/basics/zoontic-diseases.html>

110 <http://www.fao.org/antimicrobial-resistance/key-sectors/animal-production/en/>

111 <https://www.efsa.europa.eu/it/news/use-antibiotics-animals-decreasing>

112 <https://eur-lex.europa.eu/eli/reg/2019/6/>

113 <https://www.ecdc.europa.eu/en/publications-data/antimicrobial-resistance-eueea-one-health-response>

114 <https://www.scidev.net/global/news/india-and-china-top-hot-spots-of-antimicrobial-resistance-in-animals/>

115 <https://www.iowabeefcenter.org/information/IBC48.pdf>

116 https://ec.europa.eu/food/safety/chemical-safety/hormones-meat_en

products and early puberty, not to mention possible ecosystem contamination. A synthetic hormone known as rBGH (bovine somatotropin) has been linked to an increase of a hormone called IGF-1 in cow's milk, which numerous studies have shown is an important risk factor in the growth of breast, prostate and colon tumors¹¹⁷.

Unhealthy feed rations

The ingredients of a "complete" feed (industrially manufactured to meet the nutritional needs of farming animals) originate from a wide range of raw materials of both plant and animal origin as well from industrial and pharmaceutical sources. This includes animal carcasses, slaughter waste, blood, eggshells, caseins, fish flour, brewing waste, industrial by-products, animal and plant fats, preservatives, glycerine, sorbitolo, riboflavin, dextrans, etc. even animal poultry and pig litters, all of which is processed to make animal feed.

Laboratory analysis of industrial animal feed has detected the presence of bacteria (Salmonella, E.coli), antibiotic-resistant bacteria (E. faecium, E. coli, C. jejuni), arsenic compounds (roarsone), heavy metals (nickel, mercury), and mycotoxins (aflatoxins, ochratoxins, trichothecenes, fumonisins, zearalenone and alkaloids). Mycotoxins are a by-product of improper grain processing and preservation. Despite laws imposing limits on mycotoxin content in feed, the extent of mycotoxin contamination is hard to estimate; these toxins are not evenly distributed in feed, so accurate sampling is difficult.

The presence of dioxins (PCDD, PCDF and PCB) is due to animals grazing in areas where there are compounds resulting from plastic incineration and other industrial processes. A set of studies carried out in the USA indicated that food of animal origin (including fish and dairy) exposes the US population to PCDD, PCDF and PCB.

Other analyses have observed prions, animal proteins whose presence is associated with the practice of making feed using animal parts like marrow, brain, eyes, entrails, and others, which has led to the rise of diseases like bovine spongiform encephalopathy (BSE, found in cattle) or scrapie (in sheep and goats). When the first case of BSE was identified in 1986, animal feed production came under closer scrutiny. In the EU there is a ban¹¹⁸ on animal feed containing proteins of ruminant origin (i.e. cattle, goats and sheep), except for milk, collagen, and gelatine. The ban is not valid on non-ruminants (pigs and poultry) but feeding animals with proteins from animals of their own species (cannibalism) is also prohibited. The EU has stipulated a directive on forbidden substances in animal feed¹¹⁹. The situation is blurrier in many other parts of the world.

The list of potential negative conditions that the above substances may trigger bacterial infections, neurological diseases, cancer, damage to the immune system, the endocrine system, and reproductive organs. Although the quantities detected in studies are below the danger threshold for humans, when accumulated over time, these substances may have an effect on the human organism that still needs investigating. The FAO, in its 2015 report, calls on governments and international institutions to improve monitoring and feed-related studies¹²⁰.

One of the top feed ingredients is soy, especially for pig and poultry feed. This hyperenergetic food may ensure rapid weight gain but, at the same time, it is responsible for meat being much fattier than it was in the past.

117 <https://www.centerforfoodsafety.org/issues/1044/rbgh/about-rbgh>

118 https://ec.europa.eu/food/system/files/2021-08/qa-animal-feed-auth-proteins_en_2.pdf

119 <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32002L0032>

120 FAO (2015) Hazard associated with animal feed

For example, the broiler breed Ross 308 may weigh, at 56 days old, as much as four times an average broiler born in 1957¹²¹. According to an analysis of chicken breast sold in UK supermarkets, their fat content is three times higher than it was 40 years ago¹²² and contain more calories of fat than they do of protein¹²³.

Poultry and eggs are one of the few land-based sources of long-chain omega-3 fatty acids, in particular docosahexaenoic acid (DHA), which is derived from the linolenic acid in green plants in pastures. Feeding poultry with grains and legumes such as soy results in meat and eggs with low omega-3 levels, contributing to obesity, cancer, and metabolic diseases of the cardiovascular system. A lack of omega-3 and a high omega-6/omega-3 ratio may entail an increased risk of contracting diseases such as atherosclerosis and neurodegenerative diseases¹²⁴. If we consider DHA content the key element in assessing the quality and healthiness of meat, the picture is clear: to obtain the same quantity of DHA that an average chicken contained fifty years ago, you would now need to eat six chickens and therefore ingest some 9000 kcal¹²⁵.

There are much less environmentally-impactful alternatives to soy, including healthy local legumes, adapted to different local areas and more sustainable farming systems; an increase in their consumption could also end the high degree of dependency on imports from producer countries.

Caring for animals

Just as with humans, animals that live in optimal conditions and are fed good quality food are healthier and less stressed, fall ill more rarely and require less medication. Veterinarians should become *co-farmers*, i.e. going beyond the provision of external expertise and taking a proactive role in farming, helping farmers to manage the animals and stopping possible imbalances from developing into pathologies. Obviously sick or wounded animals should be promptly cured and cared for, but the use of non-conventional medicines instead of veterinary drugs derived from synthetic chemicals should be encouraged (for example, probiotics, prebiotics, symbiotics, essential oils, plant or algae extracts, etc.). Antibiotics and anti-parasite treatments should only be used under veterinary supervision and only when absolutely necessary, never beforehand. Withdrawal periods for drugs should be double what is specified by law. Animals that graze on permanent pasture are able to select the plants that they feel can help re-establish their equilibrium from the biodiversity available, with preventative, curative and nutritional effects¹²⁶. Many animal diseases can also be effectively cured with natural treatments or by preventing them with vaccines.

121 <https://www.sciencedirect.com/science/article/pii/S0032579119385505>

122 The Guardian, It's supposed to be lean cuisine. So why is this chicken fatter than it looks?(2005)

123 Wang Y., Lehane C., Ghebremeskel K., Crawford M.A. (2010). Modern organic and broiler chickens sold for human consumption provide more energy from fat than protein. *Public Health Nutrition*: 13(3), 400–408.

124 <https://pubmed.ncbi.nlm.nih.gov/29689357/>

125 <https://pubmed.ncbi.nlm.nih.gov/19728900/>

126 Engel C. (2002). *Wild Health: How Animals Keep Themselves Well and What We Can Learn from Them*. Houghton Mifflin Harcourt Pub.

What is Slow Food doing?

Slow Food guidelines ban the use of hormones, preventive antibiotic treatments and suggest a drug withdrawal time that is double compared to current standards. Slow Food guidelines also promote the use of natural treatments, phytosanitary and homeopathic drugs, reserving the use of antibiotics only for cases where no other solution is viable. Slow Food has always tried to raise farmer awareness regarding pastures and the search for locally grown legumes, as an alternative to soy. Slow Food promotes outdoor farming, free animal movement, quality feed and animals being able to meet their ethological needs, to ensure better health for everybody.

SLAUGHTER

A farm that cares about maintaining a high level of animal welfare must take into careful consideration all of the phases that precede slaughter, from transport to the slaughterhouse to the slaughter itself. The closure of small local slaughterhouses and their replacement by a few, large slaughtering hubs has led to the creation of facilities in which care and respect for animals has been lost, where animals experience unnecessary stress and suffering in the name of time constraints, logistical needs and cost optimization.

This is one of the main reasons why there has been a reduction of small-scale livestock farms, hindering the preservation of native breeds and the development of extensive, grass-fed livestock farming. This trend can be seen in many countries.

In the United States, for instance, in the last three decades of the 20th century, the number of small (under 50,000 head per year) and medium-sized (under 500,000 head per year) plants decreased by 112% and 165%, respectively, while the number of larger processing plants (above 500,000 head per year) increased by 45%¹²⁷. According to data from the US Department of Agriculture, four companies control between 55 and 85% of the US beef, pork and poultry market¹²⁸.

In Fuyang, China, a single plant slaughters 5,000,000 pigs a year. The largest slaughterhouse is located in North Carolina, USA, and slaughters 36,000 pigs per day, or 13 million a year¹²⁹.

In the United Kingdom, the number of slaughterhouses fell from 1900 in 1971 to 249 in 2018¹³⁰.

There are 1362 active slaughterhouses active in Italy¹³¹, mostly private and concentrated in the northern regions. In 1982, a network of 1900 state-owned slaughterhouses guaranteed a service that was spread out across the country, but by 1999 the number of state-owned facilities had fallen to just 376¹³².

In subsequent years the need to restructure the industry in order to meet EU regulations led to a growing concentration of facilities, with the closure of many smaller slaughterhouses. Slaughtering should be carried out using appropriate means and by trained workers, able to use tools and procedures that do not cause unnecessary suffering, stress or fear. The animals should be stunned before killing.

127 Meat Processing in North America: Successes, Failures and Opportunities. Southern Agricultural Economics Association Annual Meetings Orlando, Florida (2006)

128 <https://www.whitehouse.gov/briefing-room/blog/2021/09/08/addressing-concentration-in-the-meat-processing-industry-to-lower-food-prices-for-american-families/>

129 Meat Atlas (2021)

130 <https://sustainablefoodtrust.org/articles/why-britain-needs-small-abattoirs/>

131 <https://www.salute.gov.it/consultazioneStabilimenti/ConsultazioneStabilimentiServlet?ACTION=gestioneSingolaCategoria&idNormativa=2&idCategoria=1>

132 <https://www.isprambiente.gov.it/files/ippc/lg-mtd-macelli-carcasse-12settembre2005.pdf>

Slaughter is a complex operation, particularly for extensive farms with hardy local breeds that have different ethological needs than intensively-reared animals. Due to their genetics, and a life spent outdoors, local breeds are not accustomed to the use of mechanized restraints and transport systems. Therefore, loading, unloading and slaughtering should follow a specific procedure and the slaughterhouse should be – more than ever in these cases – close to the farm and able to handle the animals properly.

Ideally, animals should be slaughtered directly on their farm with mobile slaughtering facilities, an essential measure to meet animal welfare needs particularly on small-scale, extensive farms, whereafter the carcass can then be transported to a slaughterhouse for butchering.

TRANSPORT

The number of animals sold alive has progressively increased, and millions of animals are transported over long, even intercontinental distances. In general, over the last 30 years the distances animals travel to market or to slaughter have doubled¹³³. Transport doesn't just regard transfer to the slaughterhouse, but also movements linked to different stages of rearing (e.g. from the farms where they are born to those where they are fattened), and is a consequence of high specialization in the sector.

In the EU, around 70% of farmed animals are moved from one member state to another during their lifetimes, with different countries managing different phases of the value chain. Piglets born in Denmark, for example, are often brought to Poland to be fattened at a lower cost¹³⁴.

In 2019, almost 1.4 billion farm animals were transported within the European Union, the vast majority of which (1.3 billion) were chickens or other poultry species, as well as about 43 million cattle, pigs, sheep and goats¹³⁵. Land transport is limited to a maximum of 8 hours per day (EC Regulation No 1/2005), which is still a long time. Despite this regulation, according to a EU survey, the rules are often not respected¹³⁶. It is not uncommon for animal transport journeys to last 30 hours or more, even 96 hours¹³⁷. In what is one of the world's biggest meat markets, the time that animals spend traveling to the slaughterhouse or to be sold is constantly increasing. The reasons are varied and include the fall in the number of local slaughterhouses and the cheaper costs of fattening animals in other countries.

For animals transported by sea, there is no legal limit to journey times. These journeys can last weeks (and sometimes end in tragedy, like the New Zealand ship which sank due to a typhoon in 2020 with a load of 5800 cattle on their way to China, or the Romanian cargo vessel which sank in the same year in the Black Sea with 14,000 sheep on board)¹³⁸.

Transport and connected operations can be a considerable source of stress and suffering for animals (who are unused to being moved in vehicles) because of overcrowding, exhaustion and dehydration (especially in the hot summer months). In addition, the transport of live animals encourages the spread of diseases and epidemics.

133 FAO (2006) <https://www.fao.org/docrep/010/a0701e/a0701e00.html>

134 <https://eu.boell.org/en/MeatAtlas>

135 [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690708/EPRS_BRI\(2021\)690708_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690708/EPRS_BRI(2021)690708_EN.pdf)

136 <https://www.europarl.europa.eu/news/it/headlines/priorities/benessere-e-tutela-degli-animali/20211215STO19501/trasporto-degli-animali-carenze-nell-applicazione-delle-norme-intervista>

137 [https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/646170/EPRS_ATA\(2020\)646170_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/646170/EPRS_ATA(2020)646170_EN.pdf)

138 <https://euobserver.com/world/151394>

For these reasons, animals should be reared and slaughtered close to their place of birth¹³⁹ and not transported, particularly if they are not yet weaned. An immediate result would be the strengthening of local food systems: farmers would incur fewer costs; those who keep extensively-reared local breeds would be advantaged, and environmental costs related to transport would be reduced, and consumers could have easier access to locally-sourced meat.

What is Slow Food doing?

Slow Food fosters short production chains, which are fully realized when consumers and producers (animal farmers in this case) share the same goals. Our strategy focuses on decentralized and local food systems, trying to minimize the presence of mediators along the food chain and the distances that food must cover.

By removing intermediate stages between production and consumption we can foster a new relationship between the rural and the urban, promoting the food products of rural communities in their local urban centers. Short production chains may contribute to a fair price since consumers might be able to consider real farming costs.

Slow Food has launched the Earth Markets to promote a number of small farmers' markets that meet a set of sustainability guidelines.

The GAS (Gruppi di Acquisto Solidale - Solidarity Purchasing Groups), and CSA (Community Supported Agriculture) are further examples of networks that have the same purpose of facilitating direct contact between producers and consumers.

A DENIED RELATIONSHIP

One specific consequence of the industrial livestock farming system has been little investigated: the radical fracture it creates between animals, humans and ecosystems. Farm work, which used to imply rearing animals as well as growing crops, has been based on a relationship between people, animals and nature since the Neolithic period, becoming over time a very condition of existence¹⁴⁰. This relationship has been radically altered by the industrialization of animal husbandry, which has turned animals into a means of production, capital which must be maintained in order to generate profit, rather than as a source of meat, labor and clothing necessary for survival.

The animals' relationship with the natural environment, and with humans, was thus revolutionized. The fragmentation of life stages, with animals often changing farms several times over their lifespan, from the shed where they are born to where they are fattened and finally, the slaughterhouse, does not allow for the establishment of an empathetic relationship between humans and animals. The high numbers of animals being reared on modern farms contributes to the further distancing of two worlds that used to be complementary.

According to some researchers¹⁴¹, the behavior of the workers looking after the animals has a significant impact on animal well-being. The people who look after animals should be able to anticipate problems, identify when they arise and resolve them, as well as be able to identify, maintain and improve animal

139 Federation of Veterinarians of Europe, FVE (2008). The welfare of animals during transportation

140 Mendras, H. (1967), *La fin des paysans*

141 <https://www.eurogroupforanimals.org/news/animal-welfare-top-mind-eurobarometer-2016>

well-being. The motivation and satisfaction of workers, working conditions, as well as health and safety regulation are often ignored, aggravating an already increasingly difficult relationship with the animals.

Though good training for workers is essential, it is not always provided. Targeted cognitive-behavioral training should be given, so that workers looking after animals can improve their animal management skills, with benefits for animal well-being and productivity.

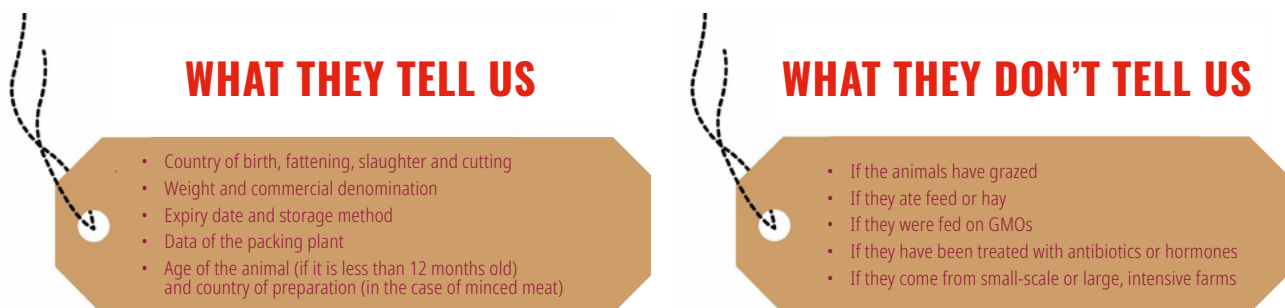
LABELING ANIMAL WELFARE

Public opinion is increasingly attentive to the issue of animal welfare, and urges institutions to act. A historic Eurobarometer survey in 2016 found that 94% of European citizens consider animal welfare on farms to be important¹⁴².

The private sector uses slogans, terminologies and symbols to take advantage of this growing sensitivity and create confusion and misunderstandings among consumers. Citizens, it must be remembered, have the right to know how the animals from which the meat, cheese, milk and eggs they consume are reared in order to make informed purchasing decisions.

The reference legislation for labeling in Europe¹⁴³ requires only some information to guide purchasing decisions such as the origin (including a distinction between country of birth, breeding and slaughter) for all animal products (meat, dairy products, eggs). At present, only eggs are required to carry a code identifying the type of farming system they come from.

What do beef labels tell us?



EU Member states can make laws on aspects not harmonized at the European level and impose additional requirements based on specific regulations.

There is no clear and shared labeling system covering animal welfare. This regulatory gap penalizes those who raise their animals respectfully and sustainably because it does not make them recognizable to consumers.

What are the reference points for consumers sensitive to this issue?

Organic certification indicates a high level of animal welfare that is much better than conventional farming¹⁴⁴. Organic farming is integrated with the cycle of nature and respects the environment and the

142 Ibid.

143 <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:304:0018:0063:it:PDF>

144 [https://eur-lex.europa.eu/IT/legal-content/summary/eu-rules-on-producing-and-labelling-organic-products-from-2022.html#:~:text=Regolamento%20di%20esecuzione%20\(UE\)%202021%2F2307%20della%20Commissione%2C,30](https://eur-lex.europa.eu/IT/legal-content/summary/eu-rules-on-producing-and-labelling-organic-products-from-2022.html#:~:text=Regolamento%20di%20esecuzione%20(UE)%202021%2F2307%20della%20Commissione%2C,30)

health of the animals. Organically-farmed animals must be reared using techniques that promote their well-being while respecting their ethological needs: animals have access to open spaces every day and their density is limited (approximately twice the minimum space allowances for conventional livestock farming by law). Farmers are not allowed to increase the growth times of animals or increase their meat, milk and egg production by using non-natural substances such as antibiotics and growth promoters. Their diet is based on organic feed and fodder (fresh and dried); any veterinary care uses, preferably, homeopathic or phytotherapeutic products. GMOs are not allowed.

FederBio, the federation for organic producers in Italy, has recently developed even more stringent standards in order to promote animal welfare. The 'High Welfare FederBio'¹⁴⁵ standard envisages, for example, the obligation of grazing for at least 120 days a year for cattle, gestating sows and sheep, udder-fed calves, the use of slow-growing/double-attitude/low-productivity breeds, a ban on dehorning for cows and deboning for hens, and the elimination of male chicks in laying hen rearing.

The Demeter¹⁴⁶ biodynamic farming label requires compliance with organic standards, as well as other measures which envision the farm as an integrated and balanced ecosystem, capable of self-producing most of the food for the animals and tending towards the complete elimination of external inputs. In this vision, the presence of animals is compulsory: composted manure enriched with biodynamic preparations is the main resource for promoting soil vitality. According to the biodynamic method, soil fertility—the goal is to reach a level of 6% organic matter over time—must be achieved by natural means: in addition to manure, compost is also produced from crops managed without chemicals; crop rotation is practiced and only mechanical pest control methods and pesticides based on mineral and plant substances are used. Agricultural specialization is not allowed because it upsets the ecological balance required for a healthy relationship between species, both animal and plant; pollinators, birds and small wild animals are also contemplated and protected.

In Italy, the 'Agricoltura Simbiotica' label¹⁴⁷, which was developed to certify sustainable farming systems that restore, maintain and improve soil biodiversity and microbial functionality, has recently been recognized. In addition to certifying agricultural production, it also provides indications for animal husbandry. The element that can best ensure the well-being of livestock is their diet, which must be based on fodder and a mixture of natural grains and legumes, in particular linseed, which is capable of improving the profile of long-chain fatty acids beneficial to the health of animals, as consequently their milk and meat.

On the other hand, there are not many examples of labeling regulations which aim to raise consumer awareness of farming conditions.

In the Netherlands, for example, the BeterLeven label¹⁴⁸ indicates three levels of quality represented by stars. In France the Label Rouge identifies products from small-scale farms. In Denmark the Bedre Dyrevelfaerd label¹⁴⁹ identifies different types of farming with heart symbols (where even having one heart, the lowest level, still indicates more respectful production practices than the basic legal requirements).

In Italy CIWF and Legambiente have presented a labeling proposal¹⁵⁰ that uses icons to identify different farming methods for raising pigs and dairy cows, but it has yet to be approved. The positive example

145 https://feder.bio/wp-content/uploads/2017/07/Standard-Benessere-Animale-Rev-0-del-18_10_2017.pdf

146 <https://demeter.net/>

147 <https://www.agricolturasimbiotica.it/>

148 https://eu.boell.org/sites/default/files/2021-09/MeatAtlas2021_final_web.pdf

149 Ibid.

150 https://www.legambiente.it/wp-content/uploads/2020/05/Criteri_per_etichettatura_suini.pdf

of European regulations for eggs whereby the shells are printed with a code that indicates the farming method (where 0 = organic, 1 = outdoors, 2 = on the ground, indoors and 3 = in cages) does not seem to be easily applicable to meat, due to different national schemes and sensitivities on the issue.

Despite the fact that the Farm to Fork strategy considers labeling “a central tool for providing consumers with high quality information regarding the level of sustainability of food production, the nutritional value of food products, as well as consumer information on animal welfare”, in 2021 the EU chose to leave the regulation of this complex issue to Member States. This will increase consumer confusion by producing different labels in different countries.

Synthesizing animal welfare into a label is difficult, as this means categorizing, and therefore simplifying, the complexity of farming systems. We must first develop a system for assessing animal welfare, taking into account the many interconnected contributing factors. This system must be applicable in different farming contexts, from large-scale intensive operations to small-scale extensive farms, and in all kinds of geographical areas.

Only a system that uses ‘animal-based’¹⁵¹ evaluation criteria can function without creating distortions. These ‘animal-based’ parameters rely on direct observation of the animal and reflect the animal’s response to farming conditions, recording signs of discomfort or, on the contrary, of quietness and well-being. For example, a high percentage of animals in the barn showing lameness or a state of excessive fear when a person approaches is an obvious sign of discomfort or physical suffering.

Animal welfare assessment schemes that are based, on the contrary, on structural, managerial, biosecurity or risk management standards end up penalizing extensive or small-scale farms, because several questions of the check-list are inapplicable: a small-scale barn in a mountain area may not have technologically advanced facilities to guarantee the animal’s comfort; in these contexts, on the other hand, the animal lives in a more natural environment, moving and grazing every day. In larger, lowland facilities, the animals have larger spaces in the sheds but often cannot go outdoors and move around sufficiently.

If the weight given to structural indicators is greater than that derived from animal-based criteria, then there will be disparities between small and large farms and between extensive and intensive farming. Paradoxically, an extensive, small-scale farm that keeps local breeds in valuable natural environments, with high quality production, might score lower than a conventional intensive farm with large numbers, just because many questions on the check-list—in some cases as many as 90% of them—are inapplicable.

There is a need for the production of flexible regulatory tools for evaluation and control, or different tools for different species and types of farms. Inadequate regulatory tools risk contributing to the closure of many small-scale farms, which lack the resources needed to adapt production facilities.


¹⁵¹ The term animal-based refers to a physical indicator (e.g., a high percentage of animals in the barn exhibiting lameness or a state of excessive fear of the animal at the approach of a person) that is an incontrovertible sign of physical discomfort or suffering.

What is Slow Food doing?

THE NARRATIVE LABEL

Slow Food network farmers self-certify their farming system through the use of the narrative label.

Since 2011, Slow Food has been promoting and implementing the narrative label in order to tell the full story of food products in order to build a stronger connection and trust between producer and the consumer. The narrative label contains information on the local area where the product was produced, as well as sensory properties, the crop cultivation or animal farming practices, and the processing techniques used. For example, the label of a cheese describes the animal breed the milk came from, the type of farming and feeding of the animals (and whether the fodder and feed were produced by the producer or certified GM free), the grazing area, the practices employed to guarantee the welfare of the animals, the processing techniques, and the time and place of the aging.



PRESIDIO DELL' AGNELLO SAMBUCANO

SAMBUCANO LAMB PRESIDIO

ETICHETTA NARRANTE

NARRATIVE LABEL

Caratteristiche della razza
La pecora sambucana è originaria della Valle Stura. È di taglia medio-grande, rustica, agile, adatta all'ambiente alpino e molto affezionata alla prole. Produce carne, latte e lana di ottima qualità.

Territorio
Valle Stura, in provincia di Cuneo.

Allevamento
Trascore la stagione estiva sugli alpeggi (Montagnetta-Stau, Vallonetto, Ischiator, Gardun e Gialancia), tra i 1500 ed i 2500 metri, la primavera e l'autunno nei prati vicino alle borgate, tra i 700 ed i 1300 metri, l'inverno negli ovili.

Alimentazione
Le pecore sambucane si alimentano esclusivamente di foraggi freschi o secchi prodotti in loco. Gli agnelli si nutrono di latte materno con piccole integrazioni di foraggio e cereali fioccati.

Macellazione
Gli agnelli sono macellati a circa 2-3 mesi d'età, quando raggiungono i 18-30 kg. Gli agnelloni (tardoun nella parlata locale) sono macellati a 4-5 mesi di età, a inizio autunno, quando scendono dall'alpeggio e pesano circa 30-45 kg.

Consigli per il consumo
La carne dell'agnello sambucano ha un gusto delicato, è compatta, saporita e magra. Può essere cotta in forno o in umido, con l'aggiunta di piccolissime quantità di erbe aromatiche.

Breed characteristics
The Sambucana sheep is a local breed from the Stura Valley. It is medium-large, hardy, agile, well adapted to the Alpine environment, and very attentive to its offspring. It produces high-quality meat, milk, and wool.

Production area
Stura Valley, Cuneo Province.

Husbandry
The animals spend the summer in the Alpine pastures of Montagnetta-Stau, Vallonetto, Ischiator, Gardun, and Gialancia, between 1,500 and 2,500 meters above sea level; the spring and autumn in meadows nearer the villages, at 700-1,300 meters; and the winter in sheepfolds.

Feeding/Diet
Sambucana sheep feed exclusively on fresh or dried forage and fodder produced on site. The lambs feed on their mothers' milk and a small amount of fodder and grain.

Slaughter
The lambs are slaughtered at around 2-3 months of age, once they have reached a weight of 18-30 kg. Larger lambs (called tardoun in the local dialect) are slaughtered at 4-5 months of age at the beginning of autumn when they come down from the mountain pastures and weigh 30-45 kg.

Consumer tips
The meat of Sambucano lambs is delicate but flavorful, savory, lean, and firm. It is best roasted or stewed with a small quantity of aromatic herbs.





CONSORZIO L'ESCAROUN

Gli allevatori del Presidio Slow Food sono riuniti nel Consorzio L'Escaroun, che commercializza le carni di sambucana grazie alla Cooperativa Lou Barmaset di Pietraporzio (Cn).
The Presidium producers are united in the L'Escaroun consortium, which markets Sambucano Lamb meat through the Lou Barmaset cooperative in Pietraporzio (CN).
Tel. +39 0171 955555 — romana.flandino@vallestura.cn.it — www.vallestura.cn.it

Slow Food Presidium
fondazione Slow Food

I Presidi sono progetti di Slow Food nati per tutelare i piccoli produttori e per salvare i prodotti tradizionali di qualità.
Slow Food Presidia are local projects that work to protect small-scale producers and safeguard quality artisanal products.

fondazione Slow Food

NEXT STEP: PARTICIPATORY GUARANTEE SYSTEM

Slow Food Presidia are committed to adopting a [Participatory Guarantee System](#) (PGS) in the future. This is a horizontal system, where everybody checks and monitors the compliance of shared guidelines; not just the farmers but also the stakeholders (experts, consumers, cooks, traders). This system helps reduce certification time and costs, since it is transparent, based on the voluntary work of the community members, and ultimately develops a trust-based relationship among participants and sets collective and lifelong learning processes in motion. It also promotes and strengthens a shared vision. Presidia farmers already form part of Slow Food Communities with two reference people: the farmers' spokesperson and the Slow Food representative providing the link between the farmers and the Slow Food association. The Slow Food Presidium Community will then establish an ethical committee and the guarantee board that will develop the PGS. Trials are currently being run in Italy, Mexico and Kenya.

A LITTLE AND HIGH-QUALITY MEAT IS BETTER

Perhaps no other food has been as controversial as meat, at least in the Western world. For centuries it was the reserve of the wealthier classes and then, in a few decades, it became readily available at low prices, but is now judged for ethical, environmental and health reasons.

According to the World Cancer Research Fund (WCRF), consumption of cured meat¹⁵² is likely to increase the risk of colon cancer¹⁵³. These high-calorie products are also high in salt: these two factors are directly connected to an increased risk of cardiovascular diseases and hypertension. Some curing processes, such as smoking, seasoning, and salting, promote the formation of carcinogenic substances¹⁵⁴.

Nitrites and nitrates are also used as preservatives to prevent the spread of harmful microorganisms, particularly *Clostridium botulinum*. Nitrites and nitrates are also added to preserve the meat's red color and improve its taste. Nitrites cause the formation of compounds called nitrosamines, some of which are carcinogenic. Nitrates are no less dangerous since they turn into nitrites once they come into contact with saliva¹⁵⁵. These substances create a bigger risk for children and teenagers, who are more vulnerable to the dangerous effects that additives have on health.¹⁵⁶

As such, one of the WCRF's recommendations is to **"eat no more than moderate amounts of red meat, such as beef, pork and lamb, and eat little, if any, cured meats"**¹⁵⁷. The EU has already established maximum doses for nitrites¹⁵⁸, and the debate on their ban in France, after a scientific study was made public in 2021, reached the National Assembly¹⁵⁹.

152 Cured meat may be salted, seasoned, fermented, smoked, or processed otherwise to better preserve it and improve its taste. Cured meat includes ham, salami, bacon and some sausages such as hotdog and chorizo. Minced meat, such as fresh sausages, may fall under this category. Source: Limit red and processed meat.

153 World Cancer Research Fund. American Institute for Cancer Research. Continuous Update Project Expert Report 2018. Meat, fish and dairy products and the risk of cancer

154 Johnson C, Raj TS, Trudeau L, et al. The science of salt: a systematic review of clinical salt studies 2013 to 2014. *J Clin Hypertens* (Greenwich). 2015

155 European food safety Authority. EFSA explains risk assessment - Nitrites and nitrates added to food. 2017

156 Martyn DM, McNulty BA, Nugent AP, Gibney MJ. Food additives and preschool children. *Proceedings of the Nutrition Society*. 2013;

157 World Cancer Research Fund. American Institute for Cancer Research. Continuous Update Project Expert Report 2018. Meat, fish and dairy products and the risk of cancer.

158 The EU regulation states that the maximum amount of sodium nitrite which can be added to meat products in general is 150 mg/kg, and this amount even decreases during the shelf life of the products. The daily intake of nitrites, which is considered as safe by the European Commission, is 0.06 mg/kg of bodyweight, in other words, less 2 mg for a child weighing 30 kg and a little more than 4 mg for an adult weighing 70 kg. In case the finished cold cuts contained 50 mg of nitrites/ kg of product – maximum permissible dose in accordance with the organic specifications– just 100 grams would exceed the daily intake of nitrites. Please consider that nitrites and nitrates are contained even in leafy vegetables or water, therefore it is hard to estimate the real contribution from each different source, for a whole population.

159 Le Figaro (2022) [Charcuterie: l'interdiction des nitrites au menu de l'Assemblée nationale](#)

Cured meats aside, the harmful effects of meat are not due to their nutritional components per se, but to the structure of the meat-heavy diet: For instance, people who eat more meat generally eat less fish, vegetables, and whole grains: this translates into a lower fiber intake and general unhealthy eating habits. It is therefore difficult to make a direct connection between high meat consumption and serious diseases¹⁶⁰.

Meat has always been one of the main sources of high-quality protein for humans. Red meat is especially high in micronutrients such as iron, zinc, selenium, vitamin D and vitamin B12¹⁶¹. Bovine meat and that of other ruminants also contains Conjugated Linoleic Acid (CLA), which has anti-carcinogenic properties¹⁶². In countries where the population has limited access to nutritious food, meat is a bulwark against malnutrition and improves cognitive development during childhood¹⁶³.

Meat and eggs are a valuable source of polyunsaturated fatty acids (PUFA). Most human diets contain a low amount of omega-3, so our diet should always include food with high levels of PUFA. Fish is the main source of omega-3, but we cannot meet the world's omega-3 needs with declining fish stocks in decline. Terrestrial animals (especially poultry, pigs, and rabbits), when bred in free-range systems (because of the high amount of omega-3 contained in grass) or fed with specific foods whose purpose is to increase omega-3 (linseed, algae, hemp...), may be beneficial to human diets¹⁶⁴.

When considering the health risks of meat consumption, especially in the field of oncology, it is important to make a distinction between fresh and cured meats, and to take farming systems into consideration. There is not just one type of meat, nutritionally speaking: its nature depends on the farming system it comes from.

Research has revealed that meat from free-range farming is generally leaner¹⁶⁵ and contains more omega-3 fatty acids, vitamins A and E, and also other antioxidants with anti-carcinogenic properties such as glutathione and superoxide dismutase¹⁶⁶. Milk is rich in omega-3 and CLA, compounds with anti-inflammatory, antithrombotic and immune-modulatory effects. An experiment on a group of people eating grass-fed meat for four weeks revealed that their omega-3 levels were higher than those of the control group, who ate meat from intensive farming, with animals being fed with concentrate feed¹⁶⁷.

The benefits of this farming practice are particularly evident in monogastric species (poultry, rabbits and pigs) where grass-based diets have a positive influence on fatty acids, oxidative stability and the antioxidant content of meat and eggs.

160 Geiker NR, Bertram HC, Mejborn H, et al. Meat and human health—current knowledge and research gaps.

161 Salter AM. The effects of meat consumption on global health. *Rev Sci Tech*. 2018

162 Pighin D, Pazos A, Chamorro V, et al. A contribution of beef to human health: A review of the role of the Animal Production Systems. *The Scientific World Journal*. 2016

163 Salter AM. The effects of meat consumption on global health. *Rev Sci Tech*. 2018

164 Dal Bosco A, Mattioli S, Cartoni Mancinelli A, Cotozzolo E, Castellini C. Extensive Rearing Systems in Poultry Production: The Right Chicken for the Right Farming System. A Review of Twenty Years of Scientific Research in Perugia University, Italy. *Animals (Basel)*. 2021

165 Van Elswyk ME, McNeill SH. Impact of grass/forage feeding versus grain finishing on beef nutrients and sensory quality: the U.S. experience. *Meat Sci*. 2014

166 Daley CA, Abbott A, Doyle PS, Nader GA, Larson S. A review of fatty acids profiles and antioxidant content in grass-fed or grain-fed beef. 2010.

167 McAfee, AJ, McSorley, EM, Cuskelly, GJ et al. (2011). [Red meat from animals offered a grass diet increases plasma and platelet n-3 PUFA in healthy consumers](#)

What is Slow Food doing?

The *Slow Meat* campaign encourages a reduction in meat consumption and support for meat from sustainable farming systems that respect animals. Out of this campaign is emerging a network of farmers, technicians, and cooks working together for a better, fairer and cleaner agriculture.

Nutritional analysis of the meat of some animal breeds protected by Slow Food Presidia has confirmed the outcomes of the above studies. For example:

MAREMMANA CATTLE BREED (TUSCANY-ITALY)

The meat of this breed has different characteristics depending on whether the animals are fed in barns or on pasture¹⁶⁸. The omega-6/omega-3 ratio, lower in males grazing on pasture, because of a higher level of alpha-linoleic acid (3.9 in cattle grazing in pasture against 12.4 in conventionally fed – feed and hay – animals), is extremely healthy. A diet rich in omega-6, especially with a very high omega-6/omega-3 ratio, may cause cardiovascular diseases, cancer, inflammation, and autoimmune diseases¹⁶⁹. On the contrary, high omega-3 levels and a low omega-6/omega-3 ratio, may have cardioprotective effects and anti-inflammatory, vasodilatory and antioxidant properties¹⁷⁰.

SAMBUCANO LAMB (PIEDMONT-ITALY)

Its meat is low in fat, with an average omega-6/omega-3 ratio and good water retention. The animals are bred in small mountain farms, grazing on high-altitude pastures and spending the rest of the year in shelters, where they are fed with local hay¹⁷¹.

ZERI LAMB (TUSCANY-ITALY)

The breed has soft, delicate meat that's low in fat and has an excellent acid composition. The little milk it provides is high in proteins and fat, and thus makes excellent cheese¹⁷². The CLA level is higher than in other native breeds from the same area, and has a low level of cholesterol, close to that of beef¹⁷³. Sheep are reared in pens during the winter months only, and spend the rest of the year on pastures at 600m above sea level in Lunigiana, where the pastures are permanent grasslands¹⁷⁴.

168 Ciucci F. Productive, qualitative and metabolic response of Maremmana and Aubrac steers maintained in feedlot or grazing systems. Department of Agricultural, Food and Agro-Environmental Sciences. Università di Pisa. 2020.

169 Simopoulos AP. The importance of the ratio of omega-6/omega-3 essential fatty acids. *Biomed Pharmacother*.

170 Anderson EJ, Thayne KA, Harris M, et al. Do fish oil omega-3 fatty acids enhance antioxidant capacity and mitochondrial fatty acid oxidation in human atrial myocardium via PPAR γ activation?. *Antioxid Redox Signal*. 2014

171 Battagliani LM, Tassone S, Lussiana C, Cugno D. Sambucana sheep breeding in Valle Stura di Demonte and meat characteristics: Present situation and outlooks on future. 2004.

172 Yarvin B. Lamb. A global history. *The Edible Series*. 2015.

173 Benvenuti M. Net al. Zerasca sheep: environment, characteristics and production. 2013

174 https://www.vetjournal.it/images/archive/pdf_riviste/4614.pdf

Despite the differences among breeds, studies confirm that the consumption of products from native breeds generally have a more positive influence on health than industrial breeds. However, meat quality is the result of many different factors, and genetics is not the only thing that matters; farming conditions, animal diet, the quality of the environment and ecosystems, soil health and pasture management also play a role.

Slow Food also promotes “natural” charcuterie from short value chains that provide high quality meat (from animals reared with respect and fed with a natural diet), that are only processed with natural preservatives such as herbs and spices instead of synthetic additives or preservatives.

What future for in vitro meat?

Scientific research has developed meat substitutes (though synthetic variants of milk, eggs and fish also exist) from animal cells that are obtained in laboratories via “cellular agriculture” techniques, in order to meet the rising demand of consumers who reject traditional products of animal origin. This is a viable alternative to farming meat and consumers would not be required to change their eating habits.

Vegetable protein-based meat substitutes have been around for years, whereas, because of high production costs, cultured meat (also known as cell-based meat or in vitro meat), is still economically prohibitive, and its production process faces serious challenges.

In the coming years, cultured meat could become a market option, but it poses crucial questions.

The cells that cultured meat is made with are extracted from animal muscles and then preserved in fetal serum, which is suctioned from the uterus of pregnant animals, killing the fetus (a sensitive detail for consumers choosing these products for ethical reasons). The production of this kind of meat requires inorganic and organic components (antibiotics/mitotics, carbohydrates, salts, micronutrients, amino acids, vitamins, preservatives, flavorings, colors, and other additives and technological adjuvants) for the cell culture, the liquid containing the nutrients. Growth is triggered by GMO yeasts, hormone-based growth promoters. Other additives, such as leghemoglobin (SLH) which simulate the effect of blood, and which have never been used in any product intended for human consumption before, are then added to make the synthetic meat seem more similar to natural meat. SLH comes from a genetically modified yeast that generated 46 unexpected proteins during the process of its development. Some of these proteins were totally unknown and the producers could not identify them – their safety level was not assessed then. Unforeseen health risks resulting from side effects and genetic mutations are possible, and safety assessments are not properly performed in some countries¹⁷⁵. No mandatory control is yet in place for these new and rapidly evolving technologies and, in general, there is little information available.

Beyond doubts around the health consequences of consuming this highly-processed food, their environmental impact is not yet clear. According to Mosa Meat, a cultured meat producer, just half a kilo of bovine muscle tissue is enough to make 80,000 hamburgers¹⁷⁶. The mass production and consumption of this kind of meat would obviously remove the need to rear animals, with a consequent reduction in greenhouse gas emissions.

¹⁷⁵ Friends of the Earth (2018). *From lab to fork. Critical questions on laboratory-created animal product alternatives*.

¹⁷⁶ <https://mosameat.com/growing-beef>

The bioreactors needed to develop culture tissues needed to produce it in large quantities would require a great deal of energy and the potential overall emissions of this sector are expected to be very high. Scientists working on this technology admit that research still has a long way to go¹⁷⁷.

Other social and economic considerations must also be made: what will the impact on the livestock farming industry be once this meat is widely sold at an affordable price? The message of Pat Brown, Founder and CEO of Impossible Foods, one of the largest cultured meat producers, is clear: *"We have a simple mission: replacing the need to use animals as a way to obtain meat on a global level by 2035."*¹⁷⁸.

What will happen to farm animals if Pat Brown's vision becomes real? Can we live without them? What about agriculture? Different types of farming have differing impacts, but the marketing strategies behind cultured meat and meat substitutes made from plant cells are likely to affect not just the intensive livestock sector, but also the virtuous and sustainable farmers who receive little support from public institutions and are penalized by the market.

Alison Van Eenennaam, a professor from Davis University, California¹⁷⁹, has said that nature has already developed a perfectly clean, solar-powered bioreactor, able to turn plant material into high-quality protein: cattle. All ruminants, and the microbes in their rumen, have evolved to digest cellulose, an insoluble carbohydrate that is inedible to humans but which forms the key constituent of the plant cells in grass. Therefore, when cattle graze in marginalized areas where crops cannot be grown, they are doing us a favor twice over: firstly by feeding us, and secondly by keeping the local territory in equilibrium. Pastures are of vital importance for the carbon storage capacity of the soil.

A rise in demand for "alternative" meat products may lead to the closure of many sustainable farming businesses, with a consequent loss of carbon-absorbing pastures in ecological equilibrium, local animal breeds, and all the traditional knowledge connected with animal farming and meat processing. It is also important to remember that a reduction in animal manure availability will increase the need for chemicals to grow crops, with huge environmental and cultural consequences.

What can be said about the powerful actors investing in this sector, some of whom (Cargill and Tyson Foods, for example) are the same corporations whose practices have had the biggest impact on the agricultural and livestock farming sectors in the last few decades? How can these corporations be prevented from dominating this market?

Transparent labeling of these products is crucial to avoid misunderstandings among consumers. This issues has already sparked protests in the USA and the European Union, as farmers have demanded that these products not be defined as "meat" or labeled with names that may generate confusion over their origin (e.g. through the use of traditionally meat-associated words like hamburger or sausage).

Consumers should be protected so that they can make conscious purchasing decisions. In 2020 the EU gave the green light for the marketing of some meat substitutes with traditional meat-associated names like veggie burger, but products of non-animal origin should not be defined as "meat". Labeling transparency is a key factor, since this is the most important tool that consumers have to understand what they are buying and therefore misleading terms should not be allowed.

177 C.Mattick, A.E.Landis, B.R.Allenby, N.J.Genovese (2015). [Anticipatory Life Cycle Analysis of In Vitro Biomass Cultivation for Cultured Meat Production in the United States](#)

178 <https://impossiblefoods.com/impact-report-2019/letter-from-the-ceo>

179 Alison Van Eenennaam, Genetic Literacy Project (2019). [Lab-grown meat isn't as 'clean' as you might think](#)

What is Slow Food doing?

RESEARCH, CONFERENCES, CAMPAIGNS

Slow Food has carried out research to investigate the consequences of the production of meat substitutes. This work, entitled "[On Meat Substitutes](#)", reviewed various scientific studies of the effects of the commercialization of these products, with a special focus on the consequences for human health, the environment, and traditional animal farming businesses. The moment these substitutes are competitively priced, they have a huge impact on the most sustainable farming examples, with social and economic consequences.

In 2020, the Terra Madre conference- "Soil and food: no-soil tomatoes and lab-grown meat" focused on this topic with a panel including American investigative journalist and essay writer Eric Schlosser, French sociologist and political analyst Paul Ariès and American economist and writer Winona LaDuke. [The conference is accessible via the Slow Food YouTube channel.](#)



THE EUROPEAN UNION POLICIES

A few numbers on European livestock farming



Since the 1970s the European Union has set rules for animal welfare. The first legislation, in 1974, regulated the slaughter of animals. It was progressively extended to the transport of animals and different types of animal production. A major step was taken when animals were recognized as sentient beings under Article 13 of the Treaty of the Functioning European Union (Lisbon 2009), and, consequently, the EU and the Member States must pay due regard to the welfare requirements of animals when preparing and implementing EU policies. Today, legislation on the protection of farm animals covers all the different steps of production from farming itself, to transport and slaughter.

The directives and regulations are:

- Directive 98/58: All farmed animals

The earliest and most important directive, which regulates the protection of animals kept for farming purposes providing general rules for the protection of all animal species kept for the production of food, wool, skin, fur or for other farming purposes.

These rules reflect the so-called 'Five Freedoms', based on the Brambell Report¹⁸⁰, one of the first official documents that took an interest in the living conditions of animals on intensive farms. According to this survey done for the British government in 1965, animals should be guaranteed:

- Freedom from hunger and thirst
- Freedom from discomfort
- Freedom from pain, injury and disease
- Freedom to express normal behavior
- Freedom from fear and distress

Other directives and regulations are more specific to either a species, or to a phase of animal farming:

- Directive 2008/119: Calves
- Directive 2007/43: Broilers
- Directive 1999/74: Laying hens
- Directive 2008/120: Pigs
- Regulation 1/2005: Animal transport
- Regulation 1099/2009: Slaughtering

The European Union's Strategy for the Protection and Welfare of Animals published in 2012 outlined the EU's vision for animal welfare until 2015. The Commission is currently working on a new strategy: since 2015 there has been a strategy gap which is also a signal of the low political priority that has been given to the issue so far. While the Strategy demonstrated the EU's commitment to the issue, many areas were not addressed (e.g. long-distance animal transport, labeling, the well-being of dairy cows, and the use of antibiotics), as highlighted by an external evaluation published in 2021. This study found that the majority of problems and drivers of poor animal welfare conditions identified by the strategy in 2012 were still relevant nine years later. The evaluation highlights a lack of compliance with EU regulations among Member States, the excessive complexity of animal welfare rules, missing synergies with the Common Agricultural Policy (CAP) and other policy areas such as fisheries, trade, environment, and transport, as well as legislative gaps regarding the protection of certain animal species for which no rules exist at the European level. Furthermore, the evaluation found that consumers have limited information concerning animal welfare when buying products.

Some measures have been taken over the years: barren battery cages for hens were outlawed in 2012, as have sow stalls (after the first few weeks of pregnancy), and the tethering of sows and veal crates, thus allowing the animals to move around and interact socially with others.

The support given to industrial food systems which operate to intensive standards, embedded in the Common Agricultural Policy (through hectare-based subsidies that favor intensification and industrial methods), represents a strong barrier to a sustainable farming model that respect animals, humans, and the planet. As long as productivism is the main goal for EU agricultural policy, changes to animal welfare rules will continue to fall short.

The EU Farm to Fork Strategy (2020-2030)

With the arrival of Ursula von der Leyen's European Commission in 2019, animal welfare has found a more central space in EU food policy commitments and is finally considered one of the core elements of the necessary transition towards sustainable food systems. In December 2019, the European Commission presented its flagship European Green Deal, an umbrella strategy to make the EU's economy sustainable by turning climate and environmental challenges into opportunities and making the transition just and inclusive for all. The EU Green Deal is composed of several regulations and strategies addressing interconnected policy sectors, two of which will play a significant role in transforming our food systems: the EU Biodiversity Strategy for 2030 and the Farm to Fork Strategy, published on 20 May 2020, which Slow Food has analyzed in detail in its policy brief "[What do the new EU Farm to Fork and Biodiversity Strategies mean for Slow Food?](#)".

The Farm to Fork Strategy is a 10-year plan to accelerate the transition to a sustainable food system through an integrated approach and addresses the environmental, agricultural, and public health aspects of food. It lists 27 measures in its Action Plan to pave the way for greener food production, healthier and more sustainable diets, and less food waste. There are several measures which aim to improve animal welfare and animal farming in general.

Importantly, the Commission has shown solid commitment to the issue by announcing an evaluation and revision of existing animal welfare legislation (including on animal transport and slaughter) due for 2023, and will consider options for animal welfare labeling, which today remains voluntary and largely unregulated.

More generally the EU Farm to Fork Strategy states that "there is an urgent need to reduce dependency on pesticides and antimicrobials, reduce excess fertilization, increase organic farming, improve animal welfare, and reverse biodiversity loss." With these words, the European Commission is making a clear pledge for animal welfare in the EU. However, the commitments under the EU Farm to Fork Strategy, while going in the right direction, need to be translated into legislation and adopted by the European Parliament and Council in order to become binding; the coming months and years will thus be a crucial period in which civil society must seek to influence this process and make sure that the revised animal welfare legislation (expected for 2023) is equipped to face the challenges of food sustainability as well as other ethical issues.

WHAT IS SLOW FOOD ASKING OF POLICY-MAKERS?

- To establish synergetic cohesion between animal welfare legislation and other European policies such as the Common Agricultural Policy (CAP), the Green Deal via Farm to Fork and biodiversity strategies, trade agreements, the Fit for 55 climate package, the Europe Beating Cancer plan, etc.
- A CAP that considers animal welfare a pivotal and systemic issue for dealing with related challenges (climate change, biodiversity loss, soil health, rural development, just to mention some)
- To adopt the One Welfare approach as a guiding principle for animal welfare policies.
- To recognize the essential role of biodiversity in farming animals, to preserve and support native breeding species, fit for their local territories of origin, as stated in the EU strategy on biodiversity for 2030.
- To facilitate the spread of small-scale and/or mobile slaughterhouses to prevent animals from suffering during transport and avoid end-of-life stress.
- To support farmers transitioning to respectful farming practices, by funding training and the creation of specific schools to provide farmers and herders with greater knowledge of extensive farming.
- To encourage farmers to return to mountain areas and marginalized areas through tax breaks, and thus to have a larger presence of farming on pastures, and to stimulate the production high-quality fodder.
- To prevent live animals from being exported out of the EU and provide for stricter rules for transportation within the EU (reducing transport time to below 8 hours, with larger spaces, and ban the transport of unweaned animals). To impose EU standards on products from outside the region in order to protect European farmers from unfair competition and ensure consistency with what is allowed in the EU. Trade agreements must comply with these standards.
- To provide consumers with better information on the different stages of life for animals, including living conditions during farming, the origin of their feed, with the adoption of a European brand to help consumers identify farmers who really respect their animals. The way animal welfare is assessed should follow animal-based indicators, shared throughout the European Union, which do not penalize small-scale farms, and allowing for fair access to EU funds to improve animal welfare.
- In terms of GMOs, the authorization for which is left to Member States, Slow Food calls for mandatory labeling which states whether or not the product contains GMOs, and if the source of the animal product (milk, cheese, meat, eggs) was ever fed with GMOs. As for the so-called “new GMO” (via genome editing, the Crispr/Cas9 technique and other New Breeding Techniques), Slow Food has launched a [campaign](#) in collaboration with other associations to demand the adoption of existing GMO standards for these techniques too. Otherwise, according to a 2018 sentence of the European Court, this information may not be indicated on the label, thereby preventing consumers from making conscious choices.
- Regarding the legislation on European Denominations of Origin, Slow Food demands the EU Commission and Competent Ministries in Member States require that production

specifications include the type of animal farming practiced, demanding more respect, better and more local feed and a limitation on the transportation of live animals below 100 km, as well as promoting local breeds by retrieving historical genotypes

- To end the use of nitrites and nitrates and other chemical additives, by replacing them with technological processes and natural plant-based substances. In the case of dairy products, as a minimum, Protected Designation of Origin products should indicate that animals were fed with local polyphyletic hay (accounting for at least 75% of the dry ration).
- To ban the use of terms such as meat and other meat-associated language on the labels of cultured meat products.
- To promote mandatory food education in schools, throughout the whole course of study, to make young people more aware of the need to make healthier and more sustainable consumption decisions, and of different farming and production practices.

SLOW FARMING

The topics that this document deals with are also the key points of one of the most important campaigns that Slow Food will manage in the years to come: “**Slow Farming**”.

The campaign originates in a reflection on the relationships between humans and animals, between the domesticated world and the wild, and between our food and our health (where our health includes both the health of animals and the planet as a whole), involving farmers, herders, cheesemakers, charcuterie producers, veterinary doctors, businesses, institutions, universities, agriculture schools, small and large-scale distributors, cooks, the catering industry, and concerned citizens) in the search for shared solutions and a fairer, more sustainable system, based on reducing consumption and animal product waste, supporting and valuing respectful animal farming which protects the soil, biodiversity, and the landscape.

Everything started in 1997 with the first edition of Cheese, an event which has since become the most important event on **artisan cheese in the world**, as well as a cultural vanguard in, for example, the political battle over **raw milk**, the protection of mountain pastures, the promotion of herders’, cheesemakers’, and refiners’ knowledge.

The Presidia, which were born soon afterwards, shifted the focus to livestock farming, its relationship with biodiversity (breeds, pastures) and the quality of animal feed, and its environmental and social impact.

In 2015 Slow Food launched the “Let’s Not Eat Up Our Planet! Fight Climate Change” campaign and in 2016 “Slow Meat” took its first steps; this campaign aimed to promote conscious consumption - a way to consume less intensive farming products -, and support farmers who do things differently.

The milk & dairy value chain and Slow Meat have mostly taken separate paths over the years, but their fields of interest have become increasingly more connected. It is clear today that this union is inevitable, and it requires us to tackle not just ethical but also environmental and agronomic topics.

The farming practices we have in mind for the future are holistic, taking into account the soil, water, animals, herders, farmers, and citizens. Thus “Slow Cheese” and “Slow Meat” join forces in one big cam-

paign that goes under the name “Slow Farming”. This is the path toward a different approach to livestock farming, one which restores value to food, particularly products of animal origin (meat, milk, cheese, eggs, honey, wool).

Slow Farming includes a number of activities:

- The new **“Let’s save permanent meadows”** project in Italy
- The mapping of breed and products that need saving (**Ark of Taste**)
- The start of new **Presidia** to save native breeds and promote their products (meat, milk, cheese, eggs, wool)
- The involvement of virtuous producers (farmers, herders, cheesemakers, and charcuterie producers) in **Slow Food** events (Cheese, first of all and Terra Madre), in the Earth Markets, and in Slow Food Travel project.
- Awareness-raising initiatives aimed at citizens of all ages, promoting more conscious consumption, via **educational activities** in schools (the Italian “Orti in Condotta” – School Gardens – will tackle the theme of sustainable poultry farming during the 2022/23 academic year, for example) and **communication and training** activities on all Slow Food channels.
- The promotion of **advocacy** activities, in collaboration with other stakeholders from civil society, with the aim to influence national, European and international policies on topics from livestock farming to the production and consumption of animal products.



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