

A world without livestock farming makes no sense from a humanitarian, economic, ecological and agronomic point of view.

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Currently debates about the future of livestock farming are framed only in terms of its negative impacts without considering the positive aspects. Worldwide, there are discussions on GHG emissions, use of resources and areas, industrialisation of systems and deforestation. In European countries, people are worried about animal welfare and ethics, and in the most extreme cases, some groups even refuse both the slaughter and exploitation of animals. According to these activist groups, livestock farming should be abolished for a better world and a more environmentally friendly agriculture. So let's have a look at what our planet would be like without livestock farming. We do not judge the individual choice of eating or not animal products, but it is our responsibility to inform the public debate and highlight the consequences of simplistic reasoning and dogmas that are not supported by knowledge.

A nonsense from the world food security point of view:

We will have to feed more than 9 billion human beings in 2050. 40% of unfrozen emerged lands are in fact covered by forests and a further one third is covered by natural grassland (Mongol steppes, tundra, African savanna, permanent grassland in mountain areas and dry zones...) which cannot be used to cultivate arable crops, which leaves only one third as arable land able to produce grains, fruits and legumes. Therefore, in a world without livestock farming, we would not use the one third of unfrozen emerged area that is available for the production of meat and milk with herbivores. According to FAO, these territories produce today about 25% of the meat consumed worldwide.

This also raises the question of the future of those billions peoples who are living in these vast regions. In Europe, permanent grasslands cover 75 billion ha (i.e. 40% of the agricultural area) and these grasslands contribute to the production of meat and dairy products, some of them being part of our cultural identity and gastronomy (IGP and AOP labels).

A nonsense from a humanitarian point of view

According to FAO, 800 million of poor people worldwide can survive nowadays only thanks to livestock farming. What would they become without livestock farming? Would they migrate to countries where they could produce cereals creating a huge humanitarian crisis? In many developing countries, livestock farming largely contributes to women empowerment (25% of dairy farms are managed by women, FAO). More modestly, the European livestock sector employs directly (agriculture) and indirectly (processing industry) around 5 million people. What would these jobs become? and those that are related to them? These jobs are most often located in rural areas where livestock farming is one of the main contributors for the vitality of European territories.

A nonsense from an ecological and environmental point of view

Livestock farming contributes to the regulation of ecological cycles and notably to soil fertility everywhere on the planet. For small family farming and poor farmers, animals provide fertilizers that farmers cannot buy (fertilizing 40% of arable land worldwide, FAO). Animals are also a traction force where the use of a motorized tractor is unconceivable. In Europe, livestock manures are a bio-

resource of Nitrogen and Phosphorus that is almost as important in volume as synthetic fertilizers. Their use should be promoted as they replace the use of chemical fertilizers.

With the input of organic matter via manure and grassland, livestock farming contributes to the storage of carbon in soils and thus to greenhouse gas mitigation.

The replacement of animal products by plant products in our diet does not always have only positive impacts on the environment. The end of livestock farming would inevitably lead to the disappearance of grasslands that would no longer have a utility. Furthermore, ploughing grasslands in order to produce annual crops will inevitably release significant amounts of GHGs. In mountain areas, the development of fallow land replacing managed grasslands would provoke a huge loss of biodiversity (European permanent grasslands contain 50% of European endemic plant species).

Soil erosion and desertification is a major threat to the productive capacity of agriculture. The end of livestock farming would also lead to an increase of erosion and desertification especially in arid areas. By their texture and grass coverage, grazed soils contribute to limit erosion, to water filtering and to limit water runoff and favour groundwater recharge.

A nonsense from an agronomical point of view

Livestock farming contributes to a more efficient agriculture. Animals recycle biomasses such as by-products from plant food chains (e.g. wheat bran, beet-pulps, glutenfeed, cakes...) and crop residues that cannot be used as human food. They also use marginal land not able to produce plant products for humans. They transform these biomasses into higher value proteins that contribute to the maximization of human food production per unit area. Consequently we would need much more land area to feed a population without animal-derived foods in a nutritionally balanced way as was demonstrated in a recent peer reviewed study from the US which showed the total US agricultural land would be insufficient to feed the current US population without livestock farming.

An agriculture without livestock farming would be much more chemical consuming: increased use of synthetic chemical fertilizers, whose production consumes a lot of fossil energy and increase use of pesticides as the proportion of annual crop will increase at the expense of grassland which does not need pesticides.

A nonsense from an nutritional point of view

We are omnivores and we should avoid restriction of any kind of food. This is a precautionary principle because we do not know yet what molecules are helpful to regulate aging. Many studies have shown the risk of micronutrient and vitamin deficiencies is greatly increased in low meat eaters, animal products are essential in the first 1,000 days of life and for the skeleton and brain development of pre-adolescents.

In conclusion

A world without livestock farming is just a short, medium and long-term utopia. It is time for us to come back to more realistic positions based on facts. Removing livestock farming would be an absolute nonsense for humanity. But it does not mean that we do not need to improve our way of rearing animals, to respect them, to offer them a decent life and make sure that their slaughter is

done without pain nor stress. We have to continue research and innovate in order to reduce the negative impacts of livestock farming and increase the services it provides to our societies. Research must provide knowledge and innovation in order to reduce impacts, improve livestock farming conditions and communicate on the services rendered by livestock farming in order to inform the public debate objectively. Above all, we should claim and defend that there cannot be a sustainable agriculture and food production without livestock farming.

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